YAMAHA

MU10

TONE GENERATOR

Owner’s Manual



GENERAL MIDI

XG

SPECIAL MESSAGE SECTION

This product utilizes batteries or an external power supply (adapter). DO NOT connect this product to any power supply or adapter other than one described in the manual, on the name plate, or specifically recommended by Yamaha.

This product should be used only with the components supplied or; a cart, rack, or stand that is recommended by Yamaha. If a cart, etc., is used, please observe all safety markings and instructions that accompany the accessory product.

SPECIFICATIONS SUBJECT TO CHANGE:

The information contained in this manual is believed to be correct at the time of printing. However, Yamaha reserves the right to change or modify any of the specifications without notice or obligation to update existing units.

This product, either alone or in combination with an amplifier and headphones or speaker/s, may be capable of producing sound levels that could cause permanent hearing loss. DO NOT operate for long periods of time at a high volume level or at a level that is uncomfortable. If you experience any hearing loss or ringing in the ears, you should consult an audiologist.
IMPORTANT: The louder the sound, the shorter the time period before damage occurs.

NOTICE:

Service charges incurred due to a lack of knowledge relating to how a function or effect works (when the unit is operating as designed) are not covered by the manufacturer's warranty, and are therefore the owners responsibility. Please study this manual carefully and consult your dealer before requesting service.

ENVIRONMENTAL ISSUES:

Yamaha strives to produce products that are both user safe and environmentally friendly. We sincerely believe that our products and the production methods used to produce them, meet these goals. In keeping with both the letter and the spirit of the law, we want you to be aware of the following:

Battery Notice:

This product MAY contain a small non-rechargeable battery which (if applicable) is soldered in place. The average life span of this type of battery is approximately five years. When replacement becomes necessary, contact a qualified service representative to perform the replacement.

This product may also use "household" type batteries. Some of these may be rechargeable. Make sure that the battery being charged is a rechargeable type and that the charger is intended for the battery being charged.

When installing batteries, do not mix batteries with new, or with batteries of a different type. Batteries MUST be installed correctly. Mismatches or incorrect installation may result in overheating and battery case rupture.

Warning:

Do not attempt to disassemble, or incinerate any battery. Keep all batteries away from children. Dispose of used batteries promptly and as regulated by the laws in your area. Note: Check with any retailer of household type batteries in your area for battery disposal information.

Disposal Notice:

Should this product become damaged beyond repair, or for some reason its useful life is considered to be at an end, please observe all local, state, and federal regulations that relate to the disposal of products that contain lead, batteries, plastics, etc. If your dealer is unable to assist you, please contact Yamaha directly.

NAME PLATE LOCATION:

The name plate is located on the bottom of the product. The model number, serial number, power requirements, etc., are located on this plate. You should record the model number, serial number, and the date of purchase in the spaces provided below and retain this manual as a permanent record of your purchase.

Model ____________________

Serial No. ____________________

Purchase Date ____________________

92-BP

PLEASE KEEP THIS MANUAL

Welcome to the MU10

Congratulations and thank you for purchasing the Yamaha MU10 Tone Generator!

The MU10 is a sophisticated, yet highly compact **MIDI tone generator**, specially designed for use with computers and MIDI music systems.

With the **built-in host computer interface** and **MIDI terminals**, the MU10 is ideal for any computer music system — from connection to a simple laptop to integration in a complete MIDI studio. The host computer interface is especially convenient, allowing you to directly connect it to your computer without the need for a special MIDI interface.

Featuring Yamaha's high quality AWM2 tone generation technology, the MU10 has **676 Normal Voices** and **21 Drum Voices** (percussion sets), with full **General MIDI compatibility** — including Yamaha's new **XG-MIDI**. It provides **16-Part multi-timbral capacity** and full **32-note polyphony** for playback of even the most sophisticated song data. Three independent **digital effect sections** — with 11 types of Reverb, 11 types of Chorus, and 43 different Variation effects — can be used simultaneously and give you enormous versatility in "sweetening" the sound. Plus, the MU10 has two convenient **A/D INPUT jacks**, allowing you to connect external audio sources (such as a microphone, guitar, or CD player), and mix those sources with the AWM2 Voices of the MU10.

Because of all the above, as well as its exceptionally **portable size** and convenient **battery/AC adaptor power supply**, the MU10 is an invaluable tool for all MIDI musicians and performers.

Unpacking

Your MU10 package should include the items listed below. Make sure that you have them all. Also, write down the serial number of your MU10 in the box below, for future reference.

MU10	Serial No.:
Owner's Manual	

Table of Contents

How to Use This Manual

You are probably eager to try out your new MU10 Tone Generator right away, rather than have to read through a lot of instructions before you can even get a sound out of it.

However, to get the most out of your MU10, we strongly suggest that you read the following sections in the order given:

1) Precautions

This gives you important information on how to care for your new MU10, how to avoid damaging it, and how to ensure long-term, reliable operation.

2) Panel Controls and Terminals

This section introduces you to the panel controls, jacks and terminals.

3) The MU10 — What It Is and What It Can Do

Read through this section to get an idea of how you can best use your MU10.

4) Setting Up Your MU10

This very important section gets you started using your MU10. It guides you in connecting and setting up the instrument for different example systems, and shows you how to get started using your MU10.

5) MU10 Overview and Features

Once you're familiar with everything above, go over this comprehensive guide to all MU10 functions. You won't need (or want) to read everything at once, but it is there for you to refer to when you need information about a certain feature or function.

6) Appendix

Finally, use the sections in the Appendix as necessary. The various MIDI sections provide details on how to control the Voice and Effect parameters, while the Voice Lists show all available Voices of the MU10. And, if you run into some problem or difficulty, refer to the Troubleshooting section for help.

Precautions

Your MU10 will give you years of reliable service if you follow the simple rules given below:

■ LOCATION

Do not expose the instrument to the following conditions to avoid deformation, discoloration, or more serious damage.

- Direct sunlight (e.g. near a window).
- High temperatures (e.g. near a heat source, outside, or in a car during the daytime).
- Excessive humidity.
- Excessive dust.
- Strong vibration.

■ POWER SUPPLY

Turn the power switch OFF when the instrument is not in use.

This instrument runs from either an optional AC adaptor or batteries:
(When using AC adaptor) Use ONLY a Yamaha PA-3B, PA-1207 or equivalent AC Power Adaptor to power your instrument from the AC mains. The use of other adaptors may result in irreparable damage to both the adaptor and the instrument.
An AC adaptor should be unplugged from the AC outlet if the instrument is not to be used for an extended period of time.
Unplug the AC adaptor during electric storms.
Avoid plugging the AC adaptor into the same AC outlet as appliances with high power consumption, such as electric heaters or ovens. Also avoid using multi-plug adaptors since these can result in reduced sound quality, operation errors, and possibly damage.
Always unplug cables by gripping the plug firmly, not by pulling on the AC adaptor cable.
(When using batteries) When the batteries run down, replace them with a complete set of new batteries. NEVER mix old and new batteries, and different kind (e.g. alkaline and manganese) at the same time.
To prevent possible damage due to battery leakage, remove the batteries from the instrument if it is not to be used for an extended period of time.

■ TURN POWER OFF WHEN MAKING CONNECTIONS

To avoid damage to the instrument and other devices to which it is connected, turn the power switches of all related devices OFF prior to connecting or disconnecting.

■ HANDLING AND TRANSPORT

Never apply excessive force to the controls, connectors or other parts of the instrument.

Disconnect all cables before moving the instrument.

Physical shocks caused by dropping, bumping, or placing heavy objects on the instrument can result in scratches and more serious damage.

■ CLEANING

Clean the cabinet and panel with a dry soft cloth.

A slightly damp cloth may be used to remove stubborn grime and dirt.

Never use solvents such as alcohol or thinner.

Avoid placing vinyl objects on top of the instrument (vinyl can stick to and discolor the surface).

■ ELECTRICAL INTERFERENCE

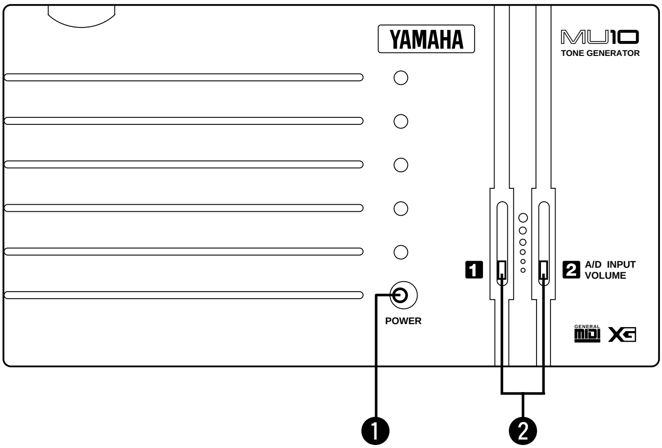
This instrument contains digital circuitry and may cause interference if placed too close to radio or television receivers. If this occurs, move the instrument further away from the affected equipment.

■ SERVICE AND MODIFICATION

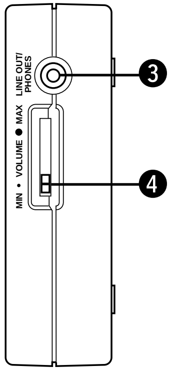
The instrument contains no user serviceable parts. Opening it or tampering with it in anyway can lead to irreparable damage and possibly electric shock. Refer all servicing to qualified YAMAHA service personnel.

Panel Controls and Terminals

Top Panel



Side Panel



❶ POWER lamp

Lights when power is turned on. Also, flashes to indicate reception of MIDI Note On messages and System Exclusive data. Also, flashes slowly when battery power becomes too low for proper operation.

❷ A/D INPUT VOLUME controls (1, 2)

For control of the A/D INPUT audio level.

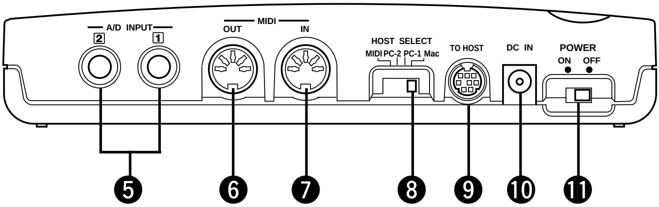
❸ LINE OUT/PHONES jack

For connection to a set of stereo headphones, or an external amplifier/speaker system (stereo mini plug). (See page 17.)

❹ VOLUME control

Adjusts the overall volume of the MU10.

Rear Panel



❺ A/D INPUT jacks (1, 2)
For connection of external audio sources, such as microphone, guitar, or CD player (mono 1/4” plug). When using only one input source, be sure to connect it to the A/D INPUT 1 jack. (See page 18.)

❻ MIDI OUT terminal
For connection to other MIDI devices, such as a MIDI keyboard or tone generator. Used to relay data received via the TO HOST terminal.

❼ MIDI IN terminal
For connection to other MIDI devices, such as a MIDI keyboard, sequencer, or to a computer via MIDI interface. When the HOST SELECT switch is set to MIDI, the received data is sent to the internal tone generator. When the HOST SELECT switch is set to PC-1, PC-2, or Mac, the received data is directly sent to the TO HOST terminal, bypassing the internal tone generator. (See page 14 – 16.)

❽ HOST SELECT switch
For selecting the type of host computer, or (when set to MIDI) normal MIDI operation. Available settings are: MIDI, PC-2 (IBM PC/AT and compatible computers), PC-1 (NEC PC 98 computers; for use in Japan), and Mac (Macintosh). (See page 15 – 16.)

❾ TO HOST terminal
For connection to a host compter. Use an appropriate serial interface cable according to the type of host computer. (See page 15.)

❿ DC IN jack
For connection to a PA-3B, PA-1207 or equivalent AC power adaptor.

⓫ POWER switch
For turning the power on and off. Turning the power on automatically sets the MU10 to the XG mode and initializes all settings and parameter values.

The MU10 — What It Is and What It Can Do

What It Is

The MU10 is a compact, highly portable MIDI tone generator, designed especially for use with computers and MIDI music systems. Specifically, it is a high-quality XG- and GM-compatible tone generator, with 676 Voices and 21 drum Voices (percussion sets). The tone generator can be played either from an external MIDI device (such as a keyboard or a sequencer) or a computer. The MU10 also includes three independent digital effect sections — with 11 types of Reverb, 11 types of Chorus, and 43 different Variation effects — for enhancing the sound of the Voices.

The MU10 features a built-in host computer interface, allowing you to directly connect it to your Macintosh or IBM PC/AT (and compatible) computer—eliminating the need of installing a special MIDI interface to your computer. With the proper sequencing software on the computer, the MU10 can be used for both recording and playing back of sequencer data. The internal tone generator also allows for comprehensive control over all Voice and effect parameters — via incoming system exclusive messages, transmitted from a sequencer or other MIDI device. (Refer to the MIDI Data Format section on page 25 for details on controlling various MU10 parameters.)

The MU10 also features two convenient **A/D INPUT jacks**, allowing you to connect external audio sources and mix those sources with the Voices. Moreover, the built-in effects can be applied to the external sources as well as the internal AWM2 Voices.

The MU10 is also the latest instrument in the Yamaha line to support the XG format, a new addition to the General MIDI standard. In short, XG provides for more instrument sounds and variations, and greater expressive control over voices and effects.

What It Can Do

Here are a few application ideas on how you can use the MU10. The list below is not comprehensive, but is meant to be a general guide to the possibilities and provide a starting point or springboard for your own creative ideas and explorations.

■ Using in a MIDI Music System

Connect the MU10 to a computer with MIDI sequencing software, and you've got comprehensive music making power—for recording, composing, arranging, practicing, and editing. Combine it with a laptop computer, and you've got a complete and portable music production system that's ready to go wherever you go. The built-in A/D Inputs let you connect an external audio source (such as a microphone or guitar), allowing you to play along with the MIDI tracks.

The MU10 is an ideal addition to larger MIDI studios as well, since it gives you a high-quality 16-Part multi-timbral tone generator.

■ Multimedia

Since it's portable and compatible with the XG and General MIDI formats, the MU10 is a natural for multimedia applications. Because of its portability and great sound, it's the only tone generator you'll need for recording, editing and playing back MIDI data on your multimedia creations.

■ Using With a MIDI Keyboard in Live Performance

Simply connect the MU10 to a MIDI keyboard and play the dynamic Voices in live performance situations. With the built-in A/D Inputs, you can even use the MU10 as a simple 2-channel mixer. Bring a computer or MIDI data player to your gig, and you can even mix another instrument (such as guitar or bass) with the MIDI-driven Voices of the MU10.

Setting Up Your MU10

Setting Up the MU10 in Your Music System

Whatever your system, you should follow the basic instructions in this section when setting up your MU10. Use the example illustrations as a general guide when making the connections with your own system.

Power Supply

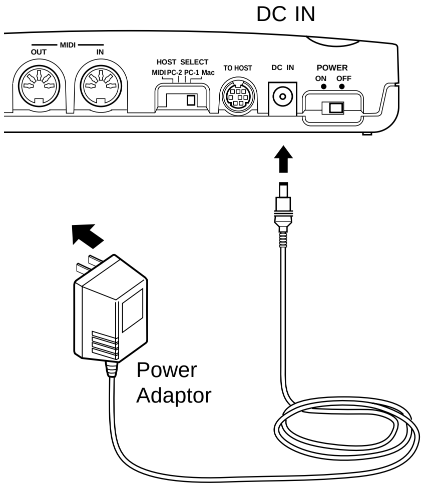
Your MU10 will run either from an optional AC adaptor or batteries. Whenever possible, you should use the AC adaptor, since the MU10 runs only for a short time on battery power (approximately two hours and twenty minutes on alkaline batteries).

■ NOTE

- *Before making any connections, make sure that all equipment to be connected is turned off.*

■ Using a Power Adaptor

Connect one end of the power adaptor (optional Yamaha PA-3B, PA-1207, or equivalent) to the DC IN jack on the rear panel, and the other end to a suitable electrical outlet.

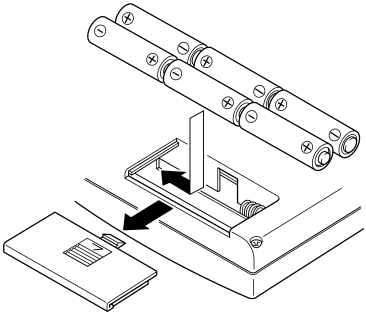


■ CAUTION

- *Do not attempt to use an AC adaptor other than the PA-3B, PA-1207, or equivalent. The use of an incompatible adaptor may result in irreparable damage to the MU10, and even pose a serious shock hazard. (The recommended power adaptor may vary, depending on your location. Please consult your nearest Yamaha dealer for details.)*
- *Be sure to disconnect the power adaptor from the outlet when the MU10 is not in use for an extended period of time or during electrical storms.*

■ Using Batteries

To use the MU10 on battery power, remove the battery compartment cover (as shown at the right) and insert six 1.5V AA size (SUM-3, R-6 or equivalent) manganese or alkaline batteries in the battery compartment. Make sure to follow the polarity indications on the bottom case.



Securely replace the battery compartment cover when finished installing the batteries.

■ When to Replace the Batteries

When the battery power runs too low to properly operate the MU10, the POWER lamp will flash slowly. When this happens, replace all batteries with a complete set of six new batteries of the same type.

■ CAUTION

- *NEVER mix old and new batteries or different types of batteries! Also, to prevent possible damage due to battery leakage, remove the batteries from the instrument if it is not to be used for an extended period of time.*
- *The MU10 has no memory backup function. Turning the power off will automatically initialize all settings and parameter values.*

Connections

In this section you'll learn how to set up your MU10 with a computer or with another MIDI device. You'll also learn how to connect the MU10 with audio equipment.

■ *CAUTION*

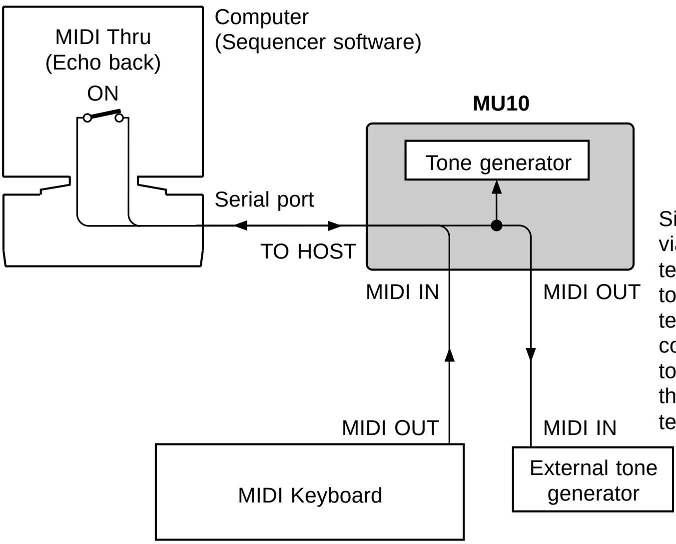
- *Turn off all devices before making connections.*

Connecting With a Computer

You can connect the MU10 with your computer in one of two ways: 1) direct (computer port — TO HOST terminal), or 2) via MIDI interface.

■ Direct Connection

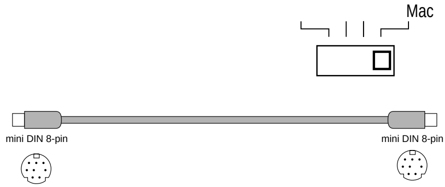
Whatever computer you use, the connections are basically the same. However, the cable you use and the HOST SELECT switch setting differ according to the computer type. Other settings on the connected computer may be required as well. (Refer to the owner's manuals of your particular computer and music software for more information.)



Since data received via the TO HOST terminal is relayed to the MIDI OUT terminal, you can connect an external tone generator to the MIDI OUT terminal like this.

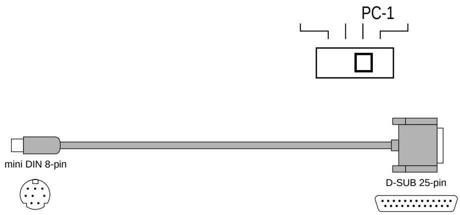
● Macintosh

Connect the TO HOST terminal of the MU10 to the Modem (or Printer) port of the computer with an optional Apple Macintosh peripheral cable (M0197), then set the HOST SELECT switch to **Mac**. Also, set the MIDI interface clock to 1 MHz.



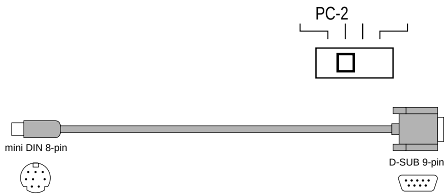
● PC98

Connect the TO HOST terminal of the MU10 to the serial port of the PC98 computer with an optional 8-pin MINI DIN to 25-pin D-SUB cable, then set the HOST SELECT switch to **PC-1**.

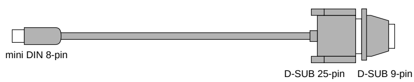


● IBM PC/AT and Compatibles

Connect the TO HOST terminal of the MU10 to the serial port of the IBM PC/AT (or compatible) computer with an optional 8-pin MINI DIN to 9-pin D-SUB cable, then set the HOST SELECT switch to **PC-2**.

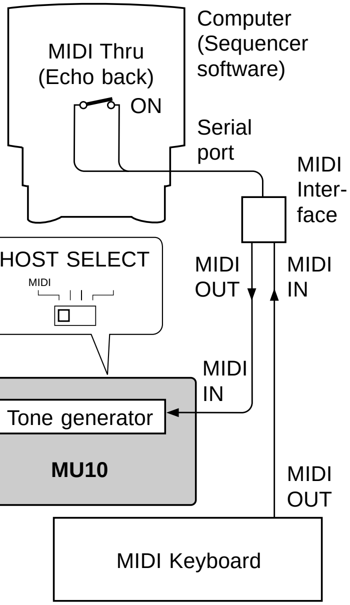


If you use an 8-pin MINI DIN to 25-pin D-SUB cable, connect a 25-pin to 9-pin plug adaptor to the D-SUB end of the cable.



■ Connecting to a Computer With a MIDI Interface

Connect the MIDI IN terminal of the MU10 with the MIDI OUT terminal on the MIDI interface as shown at the right, then set the HOST SELECT switch to **MIDI**.

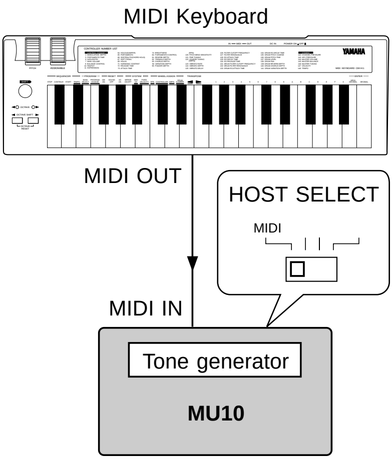


■ NOTE

- *If you are using a Macintosh computer, you may need to set the MIDI interface clock to an appropriate value. (Refer to the owner's manual of your particular music software.)*
- *When the HOST SELECT switch is set to MIDI, data received via the TO HOST terminal is ignored.*

Connecting With a MIDI Device

The MU10 can be integrated into any MIDI system in a variety of ways. In the example connection shown at the right, the MU10 is being played from a MIDI keyboard. Connect the MIDI IN terminal of the MU10 with the MIDI OUT terminal on the MIDI keyboard, set the HOST SELECT switch to MIDI, and set the MIDI transmit channel on the keyboard to the desired value. (Refer to the owner's manual of that device for details.)

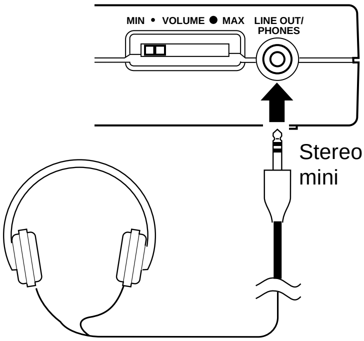


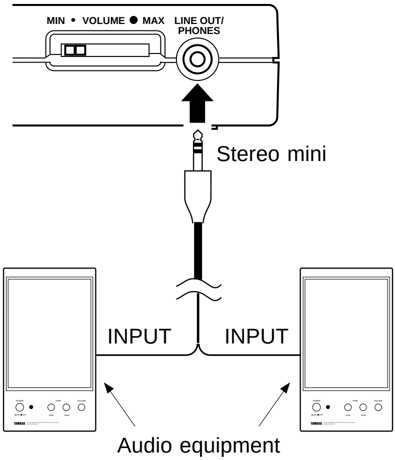
■ NOTE

- *MIDI channel 10 on the MU10 is automatically set to play the drum Voices.*

Connecting to Audio Equipment

In order to hear the sounds of the MU10, you must connect it to a set of stereo headphones or an amplifier/speaker system. Connect the headphones or audio cable to the stereo mini jack on the side panel. The particular cable that you use depends on your audio equipment. (In most cases this would be a stereo mini/dual RCA-pin cable or a stereo mini/stereo mini cable.)





> ■ ***CAUTION***
> - *After making connections, turn down the volume controls on all devices, then turn on the power of each device in the following order:*
>
>   *1) External MIDI device or computer*
>   *2) MU10*
>   *3) Audio equipment*
>
>   *When turning off the power, simply reverse the order. This is done to avoid damaging any of the equipment and connected speakers (as well as your ears!).*

Using the A/D INPUT Function

The MU10 also features an A/D INPUT function that allows you to connect two external audio sources — such as a microphone, guitar, or CD player — and mix those sources with the Voices of the MU10. For example, you could use this to sing or play a guitar or keyboard over backing tracks played with the MU10 Voices from a MIDI sequencer. With a MIDI keyboard connected to the MU10, you could plug in a CD player and play keyboard parts along with your favorite CDs.

The built-in effects of the MU10 are also applied to the INPUT sources.

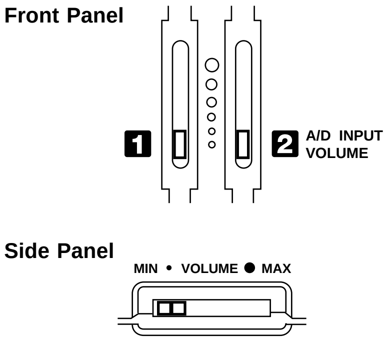
■ ***NOTE***

- *When the A/D INPUT 1 jack (or both 1 and 2) is connected, the A/D INPUT function is turned on and the maximum polyphony (simultaneous notes) of the MU10 is reduced from 32 to 30.*
- *Audio signals received via the A/D INPUT 1 and 2 jacks are mixed to one part, then processed through the effect sections and mixed with the internal Voices of the MU10.*
- *When the power is turned on, the A/D Input parameters are reset to the following values:*
  Input Gain — Mic
  Bank Select — 0
  Receive Channel — OFF
  Volume — 100
  Chorus Send — 0
  Reverb Send — 40
  Receive Program Change — OFF
  Receive Bank Select — OFF
- *When the A/D Input is active (i.e., when the A/D INPUT 1 jack is connected), Variation Send is set to 0. All other parameter settings are maintained.*

● Operation

1 Turn down all volume controls.

This includes the A/D INPUT VOLUME sliders on the top panel, and the VOLUME slider on the side panel, as well as volume controls on any connected equipment.



2 Connect the cable(s) from the external source(s) to the A/D INPUT jack(s).

When using a single mono source, connect it to the A/D INPUT 1 jack, so that the A/D INPUT function is on. (Connecting the source to only the A/D INPUT 2 jack does **not** turn on the A/D INPUT function.)

3 Turn up the various volume controls until the level is appropriate.

Start with the controls on any connected equipment, then the VOLUME slider on the side panel, and finally slowly turn up the A/D INPUT VOLUME slider while playing the external instrument or sound source.

■ Changing the Input Gain Setting

When the power is turned on, the A/D INPUTs are automatically set to receive mic level signals, such as a microphone or electric guitar. To use a keyboard or a CD player, you will need to change the setting from "mic" to "line." This is done by sending the MU10 a specific MIDI System Exclusive message (usually from a sequencer).

● Operation

1 Connect a MIDI sequencer (or other MIDI device) to the TO HOST terminal or MIDI IN terminal. (See page 14 – 16.)

The device must be able to transmit System Exclusive messages. (Refer to the owner's manual of the particular device or software for detailed instructions.)

2 Send the appropriate message from the sequencer.

To set the A/D INPUTs to "line," send this message : F0 43 1n 4c 10 00 00 01 F7
To set the A/D INPUTs to "mic," send this message : F0 43 1n 4c 10 00 00 00 F7

(n = device number)

For more details, refer to the MIDI Data Format section on page 25.

Continue with steps 1 - 3 in the previous instructions to use the A/D INPUTs with the new setting.

MU10 Overview and Features

This section covers the performance modes of the MU10 and describes in detail Voice- and Effect-related controls and features.

The MU10 has 32-note polyphony and is 16-Part multitimbral, which means it can play up to 16 different instrument Parts (one Part per each of the 16 MIDI channels), each Part having its own Voice. Up to 16 different Voices can be sounded simultaneously.
The MU10 features both XG and TG300B performance modes. Normally the MU10 plays in XG mode. However, since it automatically recognizes which mode to select based on incoming MIDI data, you can easily change the mode by MIDI System Exclusive messages that you program in sequencer data, at the head of your composition.

Please note the following:
- Turning on the power of the MU10 will automatically initialize all MU10 settings, or parameter values.
- Since the MU10 requires about half a second to change modes when it receives a mode change message, be sure to insert at least one blank measure at the top in order to allow enough time for the mode to change before your actual music data begins.

● XG Mode
In XG mode the MU10 will play XG-compatible multitimbral data, as well as multitimbral data created for the GM System Level 1 format.

In XG mode the MU10 can:
- Play up to 16 Parts.
- Choose from 480 Normal Voices and 11 Drum Voices.

● TG300B Mode
In TG300B mode the MU10 will play multitimbral music data created for TG300B-compatible tone generators. TG300B mode also provides compatibility with the GM System Level 1 format.

In TG300B mode the MU10 can:
- Play up to 16 Parts.
- Choose from 579 Normal Voices and 10 Drum Voices.

■ Voices and Elements
An MU10 Voice can be made up of one or two elements (i.e., sounds), depending on the complexity of the Voice. Many Voices are made up of only one element. Two-element Voices are made up of two one-element Voices, and may be configured in a variety of ways.
The number of elements in use determines the maximum number of simultaneous notes (polyphony) which the MU10 can play at any given time, depending on the amount of incoming MIDI Note data. For details about the number of elements used in each Voice, see the XG/TG300B Normal Voice List on page 42.

■ Normal Voices and Drum Voices
The MU10 has two types of Voices—Normal Voices and Drum Voices. (In this Owner's Manual, in general the word Voice refers to a Normal Voice.)
The distinction between a Normal Voice and a Drum Voice is as follows:

- A Normal Voice is simply a pitched Voice which can be played on a musical scale from low to high, such as a piano or trumpet. The MU10 has 676 Normal Voices.
- A Drum Voice is a complete set of drum and other percussion sounds, each sound having a fixed pitch. Each sound is assigned to a specific MIDI Note number (which also corresponds to a key on a MIDI keyboard). The MU10 has 21 Drum Voices.

■ Maximum Polyphony

The MU10 can play a maximum of 32 notes polyphony at once. (When the A/D INPUT 1 jack or both the 1 and 2 jacks are connected, the A/D INPUT function is turned on and the maximum polyphony is reduced to 30.) However, the actual number of notes that will play at any given time is determined by the number of elements in use across the 16 Parts.

For example, if you use only one-element Voices, you can achieve the full 32 notes maximum polyphony. If you use one or more two-element Voices, however, maximum polyphony will be reduced accordingly.

The MU10 is a last-note-priority tone generator, which means that if it receives more than 32 notes of MIDI Note data at any time, earlier (first) notes will automatically cut off to accommodate the most recent (last) incoming notes.

■ Part Priority

Each of the MU10's 16 Parts corresponds to each of the 16 MIDI channels (1 – 16). If incoming Note data exceeds the maximum polyphony, the MU10 will prioritize which Parts are played first, in the following order, from higher priority to lower:

- Channel 10 (Drum Part), 1, 2, 3, 4, 5, 6, 7, 8, 9, 11, 12, 13, 14,15, 16.

Therefore, if you are creating your own music data using sequencer software, you should assign your most important Parts (such as melody and bass) to higher priority MIDI channels (i.e., lower MIDI channel numbers) in order to preserve the integrity of your composition. Note that with the GM System Level 1, the Drum Part is always assigned to MIDI channel 10.

■ Element Reserve

The MU10 has an Element Reserve feature that lets you reserve a specified number of notes for certain Parts, in order to keep notes from being "stolen" from those Parts by other Parts if incoming MIDI Note data exceeds maximum available polyphony.

For example, if you specify an Element Reserve value of "10" for Part 1, then Part 1 will always keep 10 elements for itself. You can set Element Reserve values with MIDI System Exclusive messages (see XG Native Parameter Change on page 30, and <Table 1 - 4> on page 35).

■ Selecting Voices

The MU10 not only contains the 128 basic GM Voices and GM drum set, but many variation Voices as well—to give you access to a total of 676 Normal Voices and 21 Drum Voices.

In XG mode, the basic 128 GM Voices can be accessed by selecting Program numbers 1 – 128. Other Voices can be accessed by selecting both bank numbers and Program Change numbers. The Voice bank can be selected via MIDI Control Change Bank Select (MSB and LSB) messages. In XG mode, the MSB value determines the Voice type (Normal, Drum), while the LSB value actually selects the bank (excluding the SFX bank).

When the MU10 is in TG300B mode, the Voice banks can be selected with appropriate MSB numbers, as LSB is fixed.

Lists of all available Voices along with bank and program numbers are provided on pages 42 – 49.

Note that the 128 MIDI Program Change numbers consist of 0 through 127, whereas the 128 MU10 program numbers consist of 1 through 128. Depending on the sequencing hardware and software you use, you may have to convert the MU10 program numbers to the appropriate Program Change numbers.

*** For more information about Bank Select and Program Change messages, see About MIDI, page 24.***

■ Effect Types

The MU10 features dozens of extremely versatile digital effects generated by Yamaha's advanced Digital Signal Processing (DSP) technology—which add a completely new dimension to your MU10's sound.

There are three distinct effect types, or effect sections, each of which include a variety of individual effects. There are 11 Reverb type effects, 11 Chorus type effects, and 43 Variation type effects. For a complete list of effects, see the Effect Type List on page 50.

These effects are configured, or routed, in one of two ways—to be either a System Effect or an Insertion Effect. The difference is as follows:

- **SYSTEM EFFECT**
  - Applies the designated effect to all 16 Parts.
- **INSERTION EFFECT**
  - Applies the designated effect to only one specific Part.

Reverb and Chorus effect types are dedicated System Effects, and therefore are applied to the overall "mix". The Variation effect type, however, can be configured as either a System Effect or an Insertion Effect. To designate effect types and parameter values via MIDI messages, see XG Native Parameter Change, page 30.

* ***Effects can be applied to A/D Input Sources as well as the internal voices of the MU10.***

■ 16 bit A/D Input x 2

The MU10 features A/D INPUT 1, 2 jacks for connection of external audio sources such as a microphone, guitar, bass, or CD player.

Audio signals received via A/D INPUT 1 and 2 jacks are mixed to one part, then processed through the effect sections and mixed with the internal voices of the MU10. (See "Using the A/D INPUT Function" on page 18)

About MIDI

■ What is MIDI?

MIDI is an acronym that stands for Musical Instrument Digital Interface, which allows electronic musical instruments to “communicate” with each other, by sending and receiving compatible Note, Control Change, Program Change and various other types of MIDI data, or messages.

■ MIDI Messages Received by the MU10

The MU10 is controlled by various types of incoming MIDI messages which automatically determine play mode, select MIDI channels, Voices and effects, change parameter values, and of course play the Voices specified for the various Parts—complete with all the subtle nuances and powerful dynamics of expression that the composer originally intended. Below is an explanation of the various types of MIDI messages which the MU10 can receive.

● Key On/Key Off

Key On/Key Off messages, also called Note messages, tell the MU10 which notes to play, the Velocity value (depending on how hard the keys are struck) at which to play them, and how long to play them—i.e., when to start (On) and stop (Off) playing each note.

● Control Change

Control Change messages let you select a Voice bank, control volume, panning, modulation, portamento time, brightness and various other controller parameters, through specific Control Change numbers which correspond to each of the various parameters.

● Program Change

Program Change messages tell the MU10 which Voice to select for each Part. You can insert Program Change messages at any desired location in a song. Combining Bank Select numbers let you select various Voices from the hundreds of Voices available in the MU10.

● Pitch Bend

Pitch Bend messages are continuous controller messages that allow the pitch of designated notes to be raised or lowered by a specified amount over a specified duration.

● Channel Aftertouch

Channel Aftertouch is a pressure sensing function which lets you control various functions by how hard you press the keys, over the entire channel.

● Polyphonic Aftertouch

Polyphonic Aftertouch is a pressure sensing function which lets you control various functions by how hard you press the keys, for each individual key.

● System Exclusive

System Exclusive messages control various functions of the MU10, including master volume and master tuning, play mode (XG or TG300B), effect type and various other parameters specifically related to the MU10.

MIDI Data Format

By sending various types of MIDI messages you can directly control and change the settings on the MU10. Please refer to the owner's manual of your software and hardware for information about how to transmit MIDI messages to the MU10.

■ RECEPTION

1. CHANNEL MESSAGES

1.1 Key On / Key Off

Messages which are generated when the keyboard is played.
Reception note range = C-2 (0)-G8 (127), C3 = 60
Velocity range = 1-127 (Only the Key On velocity is received)
Key On: Generated when a key is pressed.
Key Off: Generated when a key is released.
Each message includes a specific note number which corresponds to the key which is pressed, plus a velocity value based on how hard the key is struck.
If the Multi Part parameter Rcv NOTE MESSAGE (Table 1-4) = OFF for a specific Part, that Part will ignore Key On and Key Off messages.
If the Drum Setup parameter Rcv NOTE OFF (Table 1-6) = OFF, the Drum Part will ignore Key Off messages.
If the Drum Setup parameter Rcv NOTE ON = OFF (Table 1-6), the Drum Part will ignore Key On messages.

1.2 Control Change

Messages which control volume, panning, and other controller parameters.
Each type of Control Change message is assigned to a specific control number.
If the Multi Part parameter for each Control Change Receive (Table 1-4, nn30-nn40) = OFF, that Part will ignore the specific Control Change message.

1.2.1 Bank Select

Messages which select variation Voice bank numbers.

CNTRL#	PARAMETER	DATA RANGE
0	Bank Select MSB	0:Normal, 63:User Voices, 64:SFX, 126:SFX Kit, 127:Drum
32	Bank Select LSB	0...127

Decimal - Hexadecimal Conversion Chart

Many MIDI messages listed in the MIDI Data Format section, are expressed in hexadecimal numbers. The chart below lists the corresponding decimal number for each hexadecimal number. (Hexadecimal numbers may include the letter "H" as a suffix.)

Dec	Hex	Dec	Hex	Dec	Hex	Dec	Hex	Dec	Hex	Dec	Hex	Dec	Hex	Dec	Hex
0	00	16	10	32	20	48	30	64	40	80	50	96	60	112	70
1	01	17	11	33	21	49	31	65	41	81	51	97	61	113	71
2	02	18	12	34	22	50	32	66	42	82	52	98	62	114	72
3	03	19	13	35	23	51	33	67	43	83	53	99	63	115	73
4	04	20	14	36	24	52	34	68	44	84	54	100	64	116	74
5	05	21	15	37	25	53	35	69	45	85	55	101	65	117	75
6	06	22	16	38	26	54	36	70	46	86	56	102	66	118	76
7	07	23	17	39	27	55	37	71	47	87	57	103	67	119	77
8	08	24	18	40	28	56	38	72	48	88	58	104	68	120	78
9	09	25	19	41	29	57	39	73	49	89	59	105	69	121	79
10	0A	26	1A	42	2A	58	3A	74	4A	90	5A	106	6A	122	7A
11	0B	27	1B	43	2B	59	3B	75	4B	91	5B	107	6B	123	7B
12	0C	28	1C	44	2C	60	3C	76	4C	92	5C	108	6C	124	7C
13	0D	29	1D	45	2D	61	3D	77	4D	93	5D	109	6D	125	7D
14	0E	30	1E	46	2E	62	3E	78	4E	94	5E	110	6E	126	7E
15	0F	31	1F	47	2F	63	3F	79	4F	95	5F	111	6F	127	7F

You can select the Voice banks with MSB and LSB numbers. MSB and LSB functions differently depending on the play mode.
In XG mode, MSB numbers select Voice type (Normal Voice or Drum Voice), and LSB numbers select Voice banks. In TG300B mode, LSB is fixed, and MSB numbers select Voice banks.(See Voice Lists on page 42 – 49)
A new bank selection will not become effective until the next Program Change message is received.

1.2.2 Modulation

Messages which control vibrato depth.

CNTRL#	PARAMETER	DATA RANGE
1	Modulation	0...127

A setting of 0 = vibrato off, and a setting of 127 = maximum vibrato.

1.2.3 Portamento Time

Messages which control the duration of portamento, or a continuous pitch glide between successively played notes.

CNTRL#	PARAMETER	DATA RANGE
5	Portamento Time	0...127

When the parameter 1.2.9 Portamento = ON, values will adjust the speed of pitch change.
A setting of 0 = minimum portamento time, and 127 = maximum portamento time.

1.2.4 Data Entry

Messages which set the value for the parameter specified by RPN/NRPN.

CNTRL#	PARAMETER	DATA RANGE
6	Data Entry MSB	0...127
38	Data Entry LSB	0...127

Parameter value is determined by combining MSB and LSB.

1.2.5 Main Volume

Messages which control the volume of each Part.

CNTRL#	PARAMETER	DATA RANGE
7	Main Volume	0...127

A setting of 0 = minimum volume, and 127 = maximum volume.

1.2.6 Pan

Messages which control the stereo panning position of each Part.

CNTRL#	PARAMETER	DATA RANGE
10	Pan	0...127

A setting of 0 = extreme left position, and 127 = extreme right position.

1.2.7 Expression

Messages which control intonation expression of each Part.

CNTRL#	PARAMETER	DATA RANGE
11	Expression	0...127

A setting of 0 = minimum expression volume, and 127 = maximum expression volume.

1.2.8 Hold1

Messages which control sustain on/off.

CNTRL#	PARAMETER	DATA RANGE
64	Hold1	0...127

Settings between 0-63 = sustain off, and settings between 64-127 = sustain on.

1.2.9 Portamento

Messages which control portamento on/off.

CNTRL#	PARAMETER	DATA RANGE
65	Portamento	0...127

Settings between 0-63 = portamento off, and settings between 64-127 = portamento on.
The parameter 1.2.3 Portamento Time controls the portamento speed.

1.2.10 Sostenuto

Messages which control sostenuto on/off.

CNTRL#	PARAMETER	DATA RANGE
66	Sostenuto	0...127

Holding specific notes and then pressing and holding the sostenuto pedal will sustain those notes as you play subsequent notes, until the pedal is released.
Settings between 0-63 = sostenuto off, and settings between 64-127 = sostenuto on.

1.2.11 Soft Pedal

Messages which control soft pedal on/off.

CNTRL#	PARAMETER	DATA RANGE
67	Soft Pedal	0...127

Notes played while holding the soft pedal will be dampened. Settings between 0-63 = soft pedal off, and settings between 64-127 = soft pedal on.

1.2.12 Harmonic Content

Messages which adjust the resonance set for each Voice.

CNTRL#	PARAMETER	DATA RANGE
71	Harmonic Content	0...127 (0 : -64, 64 : +0, 127 : +63)

The value set here is an offset value which will be added to or subtracted from the Voice data.
Higher values will result in a more resonant sound.
Depending on the Voice, the effective range may be narrower than the range available for adjustment.

1.2.13 Release Time
Messages which adjust the envelope release time set for each Voice.

CNTRL#	PARAMETER	DATA RANGE
72	Release Time	0...127 (0 : -64, 64 : +0, 127 : +63)

The value set here is an offset value which will be added to or subtracted from the Voice data.

1.2.14 Attack Time
Messages which adjust the envelope attack time set for each Voice.

CNTRL#	PARAMETER	DATA RANGE
73	Attack Time	0...127 (0 : -64, 64 : +0, 127 : +63)

The value set here is an offset value which will be added to or subtracted from the Voice data.

1.2.15 Brightness
Messages which adjust the filter cutoff frequency set for each Voice.

CNTRL#	PARAMETER	DATA RANGE
74	Brightness	0...127 (0 : -64, 64 : +0, 127 : +63)

The value set here is an offset value which will be added to or subtracted from the Voice data.
Lower values will result in a softer sound.
Depending on the Voice, the effective range may be narrower than the range available for adjustment.

1.2.16 Portamento Control
Messages which apply a portamento between the currently sounding note and the subsequent note.

CNTRL#	PARAMETER	DATA RANGE
84	Portamento Control	0...127

Portamento Control is transmitted specifying the Note On Key of the currently-sounding note.
Specify a Portamento Source Key number between 0-127.
When a Portamento Control message is received, the currently sounding pitch will change with a Portamento Time of 0 to the next Key On key on the same channel.
For example, the following settings would apply a portamento from note C3 to C4.

90	3C	7F	C3 = Key On
B0	54	3C	Source Key number set to C3
90	48	7F	C4 = Key On (When C4 = on, C3 is raised by a portamento to C4.)

Even if the Multi Part parameter Rcv PORTAMENTO (Table 1-4) = OFF, the Portamento Control message will be received.

1.2.17 Effect1 Depth (Reverb Send Level)
Messages which adjust the send level for the Reverb effect.

CNTRL#	PARAMETER	DATA RANGE
91	Effect1 Depth	0...127

1.2.18 Effect3 Depth (Chorus Send Level)
Messages which adjust the send level for the Chorus effect.

CNTRL#	PARAMETER	DATA RANGE
93	Effect3 Depth	0...127

1.2.19 Effect4 Depth (Variation Effect Send Level)
Messages which adjust the send level for the Variation effect.

CNTRL#	PARAMETER	DATA RANGE
94	Effect4 Depth	0...127

If Variation Connection (Table 1-3) = 1 (System), this message sets the send level for the Variation effect.
If Variation Connection = 0 (Insertion), this has no effect.

1.2.20 Data Increment / Decrement (for RPN)
Messages which increase or decrease the MSB value of Pitch Bend Sensitivity, Fine Tune, or Coarse Tune in steps of 1.

CNTRL#	PARAMETER	DATA RANGE
96	RPN Increment	0...127
97	RPN Decrement	0...127

The data byte is ignored.
When the maximum value or minimum value is reached, the value will not be incremented or decremented further.
(Incrementing the Fine Tune will not cause the Coarse Tune to be incremented.)

1.2.21 NRPN (Non-Registered Parameter Number)
Messages which adjust a Voice's vibrato, filter, EG, drum setup or other parameter settings.

CNTRL#	PARAMETER	DATA RANGE
98	NRPN LSB	0...127
99	NRPN MSB	0...127

First send the NRPN MSB and NRPN LSB to specify the parameter which is to be controlled. Then use Data Entry to set the value of the specified parameter.

* ***Note that once the NRPN has been set for a channel, subsequent data entry will be recognized as the same NRPN's value change. Therefore, after you use the NRPN, you should set a Null (7FH, 7FH) value to avoid an unexpected result.***

The following NRPN numbers can be received.

NRPN MSB	LSB	DATA ENTRY MSB	PARAMETER NAME and VALUE RANGE
01H	08H	mmH	Vibrato Rate mm : 00H-40H-7FH (-64 - 0 - +63)
01H	09H	mmH	Vibrato Depth mm : 00H-40H-7FH (-64 - 0 - +63)
01H	0AH	mmH	Vibrato Delay mm : 00H-40H-7FH (-64 - 0 - +63)
01H	20H	mmH	Filter Cutoff Frequency mm : 00H-40H-7FH (-64 - 0 - +63)
01H	21H	mmH	Filter Resonance mm : 00H-40H-7FH (-64 - 0 - +63)
01H	63H	mmH	EG Attack Time mm : 00H-40H-7FH (-64 - 0 - +63)
01H	64H	mmH	EG Decay Time mm : 00H-40H-7FH (-64 - 0 - +63)
01H	66H	mmH	EG Release Time mm : 00H-40H-7FH (-64 - 0 - +63)
14H	rrH	mmH	Drum Filter Cutoff Frequency mm : 00H-40H-7FH (-64 - 0 - +63) rr : drum instrument note number
15H	rrH	mmH	Drum Filter Resonance mm : 00H-40H-7FH (-64 - 0 - +63) rr : drum instrument note number
16H	rrH	mmH	Drum EG Attack Rate mm : 00H-40H-7FH (-64 - 0 - +63) rr : drum instrument note number
17H	rrH	mmH	Drum EG Decay Rate mm : 00H-40H-7FH (-64 - 0 - +63) rr : drum instrument note number Applies to both Decay1 and 2.
18H	rrH	mmH	Drum Instrument Pitch Coarse mm : 00H-40H-7FH (-64 - 0 - +63) rr : drum instrument note number
19H	rrH	mmH	Drum Instrument Pitch Fine mm : 00H-40H-7FH (-64 - 0 - +63) rr : drum instrument note number
1AH	rrH	mmH	Drum Instrument Level mm : 00-7F (0-max) rr : drum instrument note number
1CH	rrH	mmH	Drum Instrument Pan mm : 00H-40H-7FH (random, left-center-right) rr : drum instrument note number
1DH	rrH	mmH	Drum Instrument Reverb Send Level mm : 00H-7FH (0-max) rr : drum instrument note number
1EH	rrH	mmH	Drum Instrument Chorus Send Level mm : 00H-7FH (0-max) rr : drum instrument note number
1FH	rrH	mmH	Drum Instrument Variation Send Level mm : 00H-7FH (0-max) rr : drum instrument note number

MSB 14H-1FH (for Drum) is valid only if the Multi Part parameter (Table 1-4) PART MODE = DRUMS 1 or DRUMS2 for that channel. (If PART MODE = DRUM, no values will be changed.)

1.2.22 RPN (Registered Parameter Number)

Messages which offset, or add or subtract values from a Part's pitch bend sensitivity, tuning, or other parameter settings.

CNTRL#	PARAMETER	DATA RANGE
100	RPN LSB	0...127 (Default:7FH)
101	RPN MSB	0...127 (Default:7FH)

*** *Note that once the RPN has been set for a channel, subsequent data entry will be recognized as the same RPN's value change. Therefore after you use the RPN, you should set a Null (7FH, 7FH) value to avoid an unexpected result.***

The following RPN numbers can be received.

RPN MSB	LSB	DATA ENTRY MSB	LSB	PARAMETER NAME and VALUE RANGE
00H	00H	mmH	--	Pitch Bend Sensitivity mm : 00-18H (0-24 chromatic steps) Assignable in chromatic steps up to 2 octaves Default : 02H LSB value is ignored.
00H	01H	mmH	11H	Fine Tuning mm : 00H-40H-7FH (-64 - 0 - +63)
00H	02H	mmH	--	Coarse Tuning mm : 28H-40H-58H (-24 - +24 chromatic steps) LSB value is ignored.
7FH	7FH	--	--	RPN null Cancels RPN and NRPN numbers.

1.2.23 Channel Mode Messages

The following Channel Mode Messages can be received.

2nd BYTE	3rd BYTE	MESSAGE
120	0	All Sounds Off
121	0	Reset All Controllers
123	0	All Notes Off
124	0	Omni Off
125	0	Omni On
126	0 - 16	Mono
127	0	Poly

1.2.23.1 All Sounds Off

Terminates all sounds currently sounding on the specified channel. However, the status of channel messages such as Note On and Hold On is maintained.

1.2.23.2 Reset All Controllers

The values of the following controllers will be reset to the defaults.

CONTROLLER	VALUE
Pitch Bend Change	±0 (center)
Channel Aftertouch	0 (off)
Polyphonic Aftertouch	0 (off)
Modulation	0 (off)
Expression	127 (max)

Hold1	0 (off)
Portamento	0 (off)
Sostenuto	0 (off)
Soft Pedal	0 (off)
Portamento Control	cancels the Portamento Source Key Number that was received.
RPN	number not specified; internal data will not change.
NRPN	number not specified; internal data will not change.

1.2.23.3 All Notes Off
Terminates all notes currently on for the specified channel. However, if Hold1 or Sostenuto is on, notes will continue sounding until these are turned off.

1.2.23.4 Omni Off
Performs the same function as when an All Notes Off message is received.

1.2.23.5 Omni On
Performs the same function as when an All Notes Off message is received.

1.2.23.6 Mono
Performs the same function as when an All Sounds Off message is received, and if the 3rd byte (mono number) is in the range of 0-16, sets the corresponding channel to Mono Mode (Mode 4 : m = 1).

1.2.23.7 Poly
Performs the same function as when an All Sounds Off message is received, and sets the corresponding channel to Poly Mode (Mode 3).

1.3 Program Change
Messages for Voice selection.
With a combination of Bank Select, you can select not only basic Voice numbers, but also variation Voice bank numbers.
If the Multi Part parameter Rcv PROGRAM CHANGE (Table 1-4) = OFF, that Part will not receive Program Change messages.

1.4 Pitch Bend
Messages for pitch bend wheel values.
If the Multi Part parameter Rcv PITCH BEND CHANGE (Table 1-4) = OFF, that Part will not receive Pitch Bend messages.

1.5 Channel Aftertouch
Messages which let you control various functions by the pressure you apply to the keys after the initial striking of the keys, over the entire channel.
If the Multi Part parameter Rcv CHANNEL AFTER TOUCH (Table 1-4) = OFF, that Part will not receive Channel Aftertouch.

1.6 Polyphonic Aftertouch
Messages which let you control various functions by the pressure you apply to the keys after the initial striking of the keys, for each individual key.
If the Multi Part parameter Rcv POLYPHONIC AFTER TOUCH (Table 1-4) = OFF, that Part will not receive Polyphonic Aftertouch. Effective range is between note numbers 36-97.

2. SYSTEM EXCLUSIVE MESSAGES
System Exclusive messages control various functions of the MU10, including master volume and master tuning, play mode, effect type and various other parameters.

*** The device number of the MU10 is fixed to “All”.***

2.1 Parameter Change
The MU10 receives the following parameter change messages.

[UNIVERSAL REALTIME MESSAGE]
1) Master Volume

[UNIVERSAL NON REALTIME MESSAGE]
1) General MIDI Mode On

[XG NATIVE PARAMETER CHANGE]
1) XG System on
2) XG System Data parameter change
3) Multi Effect1 Data parameter change
4) Multi Part Data parameter change
5) A/D Part Data parameter change
6) A/D System Data parameter change
7) Drums Setup Data parameter change

[MU10 NATIVE PARAMETER CHANGE]
1) MU10 System Data parameter change

[OTHER]
1) Master tuning
2) TG300 System Data parameter change
3) TG300 Multi Effect Data parameter change
4) TG300 Multi Part Data parameter change

2.1.2 Universal Realtime Messages
2.1.2.1 Master Volume

```
11110000   F0   Exclusive status
01111111   7F   Universal Real Time
01111111   7F   ID of target device
00000100   04   Sub-ID #1=Device Control
                Message
00000001   01   Sub-ID #2=Master Volume
0sssssss   ss*  Volume LSB
```

```
0ttttttt    tt   Volume MSB
11110111    F7   End of Exclusive
```
or,
```
11110000    F0   Exclusive status
01111111    7F   Universal Real Time
0xxxnnnn    xn   Device Number,
                 xxx=irrelevant
00000100    04   Sub-ID #1=Device Control
                 Message
00000001    01   Sub-ID #2=Master Volume
0sssssss    ss   Volume LSB
0ttttttt    tt   Volume MSB
11110111    F7   End of Exclusive
```

When received, the Volume MSB will be effective for the System Parameter MASTER VOLUME (Table 1-2).

***** ***"ss" is the hexadecimal expression of 0sssssss; same as for "tt", "aa", etc.***

2.1.3 Universal Non-Realtime Messages

2.1.3.1 General MIDI Mode On

```
11110000    F0   Exclusive status
01111110    7E   Universal Non-Real Time
01111111    7F   ID of target device
00001001    09   Sub-ID #1=General MIDI
                 Message
00000001    01   Sub-ID #2=General MIDI On
11110111    F7   End of Exclusive
```
or,
```
11110000    F0   Exclusive status
01111110    7E   Universal Non-Real Time
0xxxnnnn    xn   Device Number, xxx =
                 irrelevant
00001001    09   Sub-ID #1=General MIDI
                 Message
00000001    01   Sub-ID #2=General MIDI On
11110111    F7   End of Exclusive
```

When General MIDI Mode On is received, the play mode will be changed to XG mode.
When this happens, the MU10 will receive the MIDI messages which compatible with GM System Level 1, and consequently will not receive NRPN and Bank Select messages.
Since approximately 50ms is required to execute this message, be sure to leave an appropriate interval before the subsequent message.

2.1.4 XG Native Parameter Change

With the Parameter Change messages as listed below, you can change the basic character or sound of a Voice, such as by Effect Type or effect parameter, transpose, tuning, and others.

```
11110000    F0   Exclusive status
01000011    43   YAMAHA ID
0001nnnn    1n*  Device Number
01001100    4C   XG Model ID
0aaaaaaa    aa   Address High
0aaaaaaa    aa   Address Mid
0aaaaaaa    aa   Address Low
0ddddddd    dd   Data
   |         |
11110111    F7   End of Exclusive
```

***** ***Any number is OK since the device number for the MU10 is fixed to "All".***
For parameters with data size of 2 or 4, transmit the appropriate number of data bytes.
When sending the parameter change messages consecutively, be sure to leave an appropriate interval (if the time base is 480, ca 5 unit) between the messages.

EXAMPLE OF PARAMETER CHANGE

1. To change reverb effect type to Stage 1,
first check the Effect Type List (page 50) to identify the MSB and LSB numbers; for Stage 1 Reverb effect type numbers are MSB = 03, LSB = 00.
Next, check the Address in Table 1-3 for the REVERB TYPE parameter; in this case the address is High, Mid, Low = 02, 01, 00, respectively.
Apply these to the 2.1.4 XG Native Parameter Change list as follows:

```
11110000    F0   Exclusive status
01000011    43   YAMAHA ID
0001nnnn    1n*  Device Number
01001100    4C   XG Model ID
00000010    02   Address High
00000001    01   Address Mid
00000000    00   Address Low
00000011    03   Data (REVERB TYPE MSB)
00000000    00   Data (REVERB TYPE LSB)
11110111    F7   End of Exclusive
```

When this data is received, the MU10 will change the effect type to Stage 1 Reverb.

***** ***Any number is OK since the device number for the MU10 is fixed to "All".***

2. To change the effect Dry/Wet balance of Stage 1 to 50% each,
first check the Effect Parameter List (page 51), parameter number 10, to identify the Dry (50%)/Wet (50%); in this case the Dry=Wet value is 64 (hexadecimal 40).
Next, check the Address in Table 1-3 for the REVERB PARAMETER 10; in this case the address is High, Mid, Low = 02, 01, 0B, respectively.
Apply these to the 2.1.4 XG Native Parameter Change list as follows:

```
11110000   F0   Exclusive status
01000011   43   YAMAHA ID
0001nnnn   1n   Device Number
01001100   4C   XG Model ID
00000010   02   Address High
00000001   01   Address Mid
00001011   0B   Address Low
01000000   40   Data (MSB)
00000000   00   Data (LSB)Æfixed at
                00.
11110111   F7   End of Exclusive
```

When this data is received, the MU10 will change the effect Dry/Wet balance of Stage 1 to 50% each.

Be sure to allow enough time for the procedure to take place by inserting an empty measure at the top of the song for every channel.

2.1.4.1 XG System On

```
11110000   F0   Exclusive status
01000011   43   YAMAHA ID
0001nnnn   1n   Device Number
01001100   4C   XG Model ID
00000000   00   Address High
00000000   00   Address Mid
01111110   7E   Address Low
00000000   00   Data
11110111   F7   End of Exclusive
```

When this data is received, the MU10 will switch to XG mode and all the parameters will be initialized accordingly, and XG-compatible messages such as NRPN and Bank Select messages can be received. However, A/D part parameter settings except Variation Send value will be preserved (Variation Send will be initialized to the value of 0).
Since approximately 50ms is required to execute this message, be sure to leave an appropriate interval before the subsequent message.

PERFORMANCE MODE CHANGE (XG mode / TG300B mode)

```
XG System On = F0 43 1n 4c 00 00 7E 00 F7
TG300B Reset = F0 41 1n 42 12 40 00 7F 00
               41 F7
               n = device number
```

2.1.4.2 XG System Data parameter change

See Tables 1-1 and 1-2.

2.1.4.3 Multi Effect1 Data parameter change

See Tables 1-1 and 1-3.

2.1.4.4 Multi Part Data parameter change

See Tables 1-1 and 1-4.

2.1.4.5 A/D Part Data parameter change

See Tables 1-1 and 1-5.

2.1.4.6 Drums Setup Data parameter change

See Tables 1-1 and 1-6.

If a Drum Setup Reset parameter change message (Table 1-2) is received, the Drum Setup parameter values will be initialized. Selecting a Drum Set will cause the Drum Setup parameter values to be initialized.

2.1.5 MU10 Native Parameter Change

```
11110000   F0   Exclusive status
01000011   43   YAMAHA ID
0001nnnn   1n   Device Number
01001001   49   Model ID
0aaaaaaa   aa   Address High
0aaaaaaa   aa   Address Mid
0aaaaaaa   aa   Address Low
0ddddddd   dd   Data
    |       |
11110111   F7   End of Exclusive
```

2.1.5.1 MU10 System Data parameter change

See Tables 2-1 and 2-2.

2.1.6 Other parameter changes

2.1.6.1 Master Tuning

```
11110000   F0   Exclusive status
01000011   43   YAMAHA ID
0001nnnn   1n   Device Number
00100111   27   Model ID
00110000   30   Sub ID2
00000000   00
00000000   00
0mmmmmmm   mm   Master Tune MSB
01111111   11   Master Tune LSB
0ccccccc   cc   irrelevant
11110111   F7   End of Exclusive
```

This message simultaneously changes the pitch of all channels.

2.2 Bulk Dump

The MU10 receives the following bulk dump data.

[XG NATIVE]

1) XG System Data
2) Multi Effect1 Data
3) Multi Part Data
4) A/D Part Data
5) Drums Setup Data

[QS300 NATIVE]

1) QS300 User Normal Voice Data

2.2.1 XG Native Bulk Dump

```
11110000    F0   Exclusive status
01000011    43   YAMAHA ID
0000nnnn    0n   Device Number
01001100    4C   XG Model ID
0bbbbbbb    bb   Byte Count
0bbbbbbb    bb   Byte Count
0aaaaaaa    aa   Address High
0aaaaaaa    aa   Address Mid
0aaaaaaa    aa   Address Low
0ddddddd    dd   Data
    |        |
    |        |
0ccccccc    cc   checksum
11110111    F7   End of Exclusive
```

For the Address and Byte Count, refer to the supplementary tables.
The checksum is the value that results in a value of 0 for the lower 7 bits when the Start Address, Byte Count, plus the checksum itself are added.

2.2.1.1 XG System Data bulk dump

See Tables 1-1 and 1-2.

2.2.1.2 Multi Effect1 Data bulk dump

See Tables 1-1 and 1-3.

2.2.1.3 Multi Part Data bulk dump

See Tables 1-1 and 1-4.

2.2.1.4 A/D Part Data bulk dump

See Tables 1-1 and 1- 5

2.2.1.5 Drums Setup Data bulk dump

See Tables 1-1 and 1-6.

2.2.2 QS300 Native Bulk Dump

Up to 32 Voices created by the QS300 can be saved in the MU10's User Memory by bulk dump messages. (Effective only when the XG mode is active.)
QS300 User Voices are stored in Bank MSB = 63, LSB = 00. Program Change numbers for User Voices are 1-32.

```
11110000    F0   Exclusive status
01000011    43   YAMAHA ID
0000nnnn    0n   Device Number
01001011    4B   QS300 Model ID
0bbbbbbb    bb   Byte Count
0bbbbbbb    bb   Byte Count
0aaaaaaa    aa   Address High
0aaaaaaa    aa   Address Mid
0aaaaaaa    aa   Address Low
0ddddddd    dd   Data
    |        |
    |        |
0ccccccc    cc   checksum
11110111    F7   End of Exclusive
```

*** Because of possible differences in number of elements, some QS300 Voices may sound slightly different.***

2.2.2.1 QS300 User Normal Voice Data bulk dump

See Tables 3-1 and 3-2.

3. REALTIME MESSAGES

3.1 Active Sensing

Once FE has been received, if no MIDI data is subsequently received for longer than an interval of approximately 300msec, the MU10 will perform the same function as when ALL SOUNDS OFF, ALL NOTES OFF, and RESET ALL CONTROLLERS messages are received, and will then return to a status in which FE is not monitored.

■ TRANSMISSION

When the HOST SELECT switch is set to other than "MIDI", data received via TO HOST terminal is relayed to MIDI OUT terminal.
If the data received via TO HOST terminal includes port message, the only data with the port message specified in MULTI PORT NUMBER for MIDI OUT (Table 2-2) is relayed to MIDI OUT terminal.

■ MIDI Data Tables

● Table 1-1

Parameter Base Address
Model ID = 4C **[XG]**

Parameter Change				
	Address			Description
	High	Mid	Low	
XG SYSTEM	00	00	00	System
	00	00	7D	Drum setup Reset
	00	00	7E	XG System On
	00	00	7F	All Parameter Reset
EFFECT 1	02	01	00	Effect1(Reverb,Chorus,Variation)
MULTI PART	08	00	00	Multi Part 1
		:		:
	08	0F	00	Multi Part 16
A/D PART	10	00	00	A/D Part
A/D SYSTEM	11	00	00	
DRUM	30	0D	00	Drum Setup 1
	31	0D	00	Drum Setup 2

Address	Parameter
3n 0D 00	note number 13
3n 0E 00	note number 14
:	:
3n 5B 00	note number 91

n : Drum Setup number (0, 1)

● Table 1-2

MIDI Parameter Change Table (SYSTEM) **[XG]**

Address (H)			Size (H)	Data (H)	Parameter	Description	Default value(H)
00	00	00	4	0000-07FF	MASTER TUNE	-102.4 - +102.3[cent]	00 04 00 00
						1st bit 3-0 Æ bit 15-12	
						2nd bit 3-0 Æ bit 11-8	
						3rd bit 3-0 Æ bit 7-4	
						4th bit 3-0 Æ bit 3-0	
		04	1	00-7F	MASTER VOLUME	0-127	7F
		05	1		NOT USED		
		06	1	28-58	TRANSPOSE	-24 - +24 [semitones]	40
		7D		n	DRUM SETUP RESET	n=Drum Setup number (0, 1)	
		7E		00	XG SYSTEM ON	00=XG System ON (receive only)	
		7F		00	ALL PARAMETER RESET	00=ON (receive only)	
TOTAL SIZE			07				

● Table 1-3

MIDI Parameter Change Table (EFFECT 1) **[XG]**

Address (H)			Size (H)	Data (H)	Parameter	Description	Default value(H)
02	01	00	2	00-7F	REVERB TYPE MSB	Æ *1	01 (=HALL1)
				00-7F	REVERB TYPE LSB	00 : basic type	00
		02	1	00-7F	REVERB PARAMETER 1	Æ *2	depends on reverb type
		03	1	00-7F	REVERB PARAMETER 2	Æ *2	depends on reverb type
		04	1	00-7F	REVERB PARAMETER 3	Æ *2	depends on reverb type
		05	1	00-7F	REVERB PARAMETER 4	Æ *2	depends on reverb type
		06	1	00-7F	REVERB PARAMETER 5	Æ *2	depends on reverb type
		07	1	00-7F	REVERB PARAMETER 6	Æ *2	depends on reverb type
		08	1	00-7F	REVERB PARAMETER 7	Æ *2	depends on reverb type
		09	1	00-7F	REVERB PARAMETER 8	Æ *2	depends on reverb type
		0A	1	00-7F	REVERB PARAMETER 9	Æ *2	depends on reverb type
		0B	1	00-7F	REVERB PARAMETER 10	Æ *2	depends on reverb type
		0C	1	00-7F	REVERB RETURN	-Infinity...0dB...+6dB (0...64...127)	40
		0D	1	01-7F	REVERB PAN	L63...C...R63 (1...64...127)	40
TOTAL SIZE			0E				
02	01	10	1	00-7F	REVERB PARAMETER 11	Æ *2	depends on reverb type
		11	1	00-7F	REVERB PARAMETER 12	Æ *2	depends on reverb type
		12	1	00-7F	REVERB PARAMETER 13	Æ *2	depends on reverb type
		13	1	00-7F	REVERB PARAMETER 14	Æ *2	depends on reverb type
		14	1	00-7F	REVERB PARAMETER 15	Æ *2	depends on reverb type
		15	1	00-7F	REVERB PARAMETER 16	Æ *2	depends on reverb type
TOTAL SIZE			6				

Æ *1 : See Effect Type List (on page 50)
Æ *2 : See Effect Parameter List (on page 51)

Address (H)	Size (H)	Data (H)	Parameter	Description	Default value(H)
02 01 20	2	00-7F	CHORUS TYPE MSB	Æ *1	41 (=CHORUS1)
		00-7F	CHORUS TYPE LSB	00 : basic type	00
22	1	00-7F	CHORUS PARAMETER 1	Æ *2	depends on chorus type
23	1	00-7F	CHORUS PARAMETER 2	Æ *2	depends on chorus type
24	1	00-7F	CHORUS PARAMETER 3	Æ *2	depends on chorus type
25	1	00-7F	CHORUS PARAMETER 4	Æ *2	depends on chorus type
26	1	00-7F	CHORUS PARAMETER 5	Æ *2	depends on chorus type
27	1	00-7F	CHORUS PARAMETER 6	Æ *2	depends on chorus type
28	1	00-7F	CHORUS PARAMETER 7	Æ *2	depends on chorus type
29	1	00-7F	CHORUS PARAMETER 8	Æ *2	depends on chorus type
2A	1	00-7F	CHORUS PARAMETER 9	Æ *2	depends on chorus type
2B	1	00-7F	CHORUS PARAMETER 10	Æ *2	depends on chorus type
2C	1	00-7F	CHORUS RETURN	-Infinity...0dB...+6dB (0...64...127)	40
2D	1	01-7F	CHORUS PAN	L63...C...R63 (1...64...127)	40
2E	1	00-7F	SEND CHORUS TO REVERB	-Infinity...0dB...+6dB (0...64...127)	00
TOTAL SIZE	0F				
02 01 30	1	00-7F	CHORUS PARAMETER 11	Æ *2	depends on chorus type
31	1	00-7F	CHORUS PARAMETER 12	Æ *2	depends on chorus type
32	1	00-7F	CHORUS PARAMETER 13	Æ *2	depends on chorus type
33	1	00-7F	CHORUS PARAMETER 14	Æ *2	depends on chorus type
34	1	00-7F	CHORUS PARAMETER 15	Æ *2	depends on chorus type
35	1	00-7F	CHORUS PARAMETER 16	Æ *2	depends on chorus type
TOTAL SIZE	6				
02 01 40	2	00-7F	VARIATION TYPE MSB	Æ *1	05 (=DELAY L,C,R)
		00-7F	VARIATION TYPE LSB	00 : basic type	00
42	2	00-7F	VARIATION PARAMETER 1 MSB	Æ *2	depends on variation type
		00-7F	VARIATION PARAMETER 1 LSB	Æ *2	depends on variation type
44	2	00-7F	VARIATION PARAMETER 2 MSB	Æ *2	depends on variation type
		00-7F	VARIATION PARAMETER 2 LSB	Æ *2	depends on variation type
46	2	00-7F	VARIATION PARAMETER 3 MSB	Æ *2	depends on variation type
		00-7F	VARIATION PARAMETER 3 LSB	Æ *2	depends on variation type
48	2	00-7F	VARIATION PARAMETER 4 MSB	Æ *2	depends on variation type
		00-7F	VARIATION PARAMETER 4 LSB	Æ *2	depends on variation type
4A	2	00-7F	VARIATION PARAMETER 5 MSB	Æ *2	depends on variation type
		00-7F	VARIATION PARAMETER 5 LSB	Æ *2	depends on variation type
4C	2	00-7F	VARIATION PARAMETER 6 MSB	Æ *2	depends on variation type
		00-7F	VARIATION PARAMETER 6 LSB	Æ *2	depends on variation type
4E	2	00-7F	VARIATION PARAMETER 7 MSB	Æ *2	depends on variation type
		00-7F	VARIATION PARAMETER 7 LSB	Æ *2	depends on variation type
50	2	00-7F	VARIATION PARAMETER 8 MSB	Æ *2	depends on variation type
		00-7F	VARIATION PARAMETER 8 LSB	Æ *2	depends on variation type
52	2	00-7F	VARIATION PARAMETER 9 MSB	Æ *2	depends on variation type
		00-7F	VARIATION PARAMETER 9 LSB	Æ *2	depends on variation type
54	2	00-7F	VARIATION PARAMETER 10 MSB	Æ *2	depends on variation type
		00-7F	VARIATION PARAMETER 10 LSB	Æ *2	depends on variation type
56	1	00-7F	VARIATION RETURN	-Infinity...0dB...+6dB (0...64...127)	40
57	1	01-7F	VARIATION PAN	L63...C...R63 (1...64...127)	40
58	1	00-7F	SEND VARIATION TO REVERB	-Infinity...0dB...+6dB (0...64...127)	00
59	1	00-7F	SEND VARIATION TO CHORUS	-Infinity...0dB...+6dB (0...64...127)	00
5A	1	00-01	VARIATION CONNECTION	0:INSERTION, 1:SYSTEM	00
5B	1	00-0F, 40,7F	VARIATION PART	part 1...16=0...15 A/D part =64, OFF=127	7F
5C	1	00-7F	MW VARIATION CONTROL DEPTH	-64 - +63	40
5D	1	00-7F	BEND VARIATION CONTROL DEPTH	-64 - +63	40
5E	1	00-7F	CAT VARIATION CONTROL DEPTH	-64 - +63	40
5F	1	00-7F	AC1 VARIATION CONTROL DEPTH	-64 - +63	40
60	1	00-7F	AC2 VARIATION CONTROL DEPTH	-64 - +63	40
TOTAL SIZE	21				

Æ *1 : See Effect Type List (on page 50)
Æ *2 : See Effect Parameter List (on page 51)

Address (H)			Size (H)	Data (H)	Parameter	Description	Default value(H)
02	01	70	1	00-7F	VARIATIONPARAMETER 11	Æ *2	depends on variation type
		71	1	00-7F	VARIATION PARAMETER 12	Æ *2	depends on variation type
		72	1	00-7F	VARIATION PARAMETER 13	Æ *2	depends on variation type
		73	1	00-7F	VARIATION PARAMETER 14	Æ *2	depends on variation type
		74	1	00-7F	VARIATION PARAMETER 15	Æ *2	depends on variation type
		75	1	00-7F	VARIATION PARAMETER 16	Æ *2	depends on variation type
TOTAL SIZE			6				

Æ *1 : See Effect Type List (on page 50)
Æ *2 : See Effect Parameter List (on page 51)

● Table 1-4

MIDI Parameter Change Table (MULTI PART) **[XG]**

Address (H)			Size (H)	Data (H)	Parameter	Description	Default value(H)
08	nn	00	1	00-20	ELEMENT RESERVE	0-32	part10=00, other=02
	nn	01	1	00-7F	BANK SELECT MSB	0-127	part10=7F, other=00
	nn	02	1	00-7F	BANK SELECT LSB	0-127	00
	nn	03	1	00-7F	PROGRAM NUMBER	1-128	00
	nn	04	1	00-0F,7F	Rcv CHANNEL	1-16,OFF	part no.
	nn	05	1	00-01	MONO/POLY MODE	0:MONO, 1:POLY	01
	nn	06	1	00-02	SAME NOTE NUMBER KEY ON ASSIGN	0:SINGLE 1:MULTI 2:INST (for DRUM)	01
	nn	07	1	00-03	PART MODE	0:NORMAL 1:DRUM 2-3:DRUMS1-2	00(Other than Part10) 02(Part10)
	nn	08	1	28-58	NOTE SHIFT	-24 - +24 [semitones]	40
	nn	09	2	00-FF	DETUNE	-12.8 - +12.7 [Hz]	08 00
	nn	0A				1st bit 3-0 Æ bit 7-4 2nd bit 3-0 Æ bit 3-0	(80)
	nn	0B	1	00-7F	VOLUME	0-127	64
	nn	0C	1	00-7F	VELOCITY SENSE DEPTH	0-127	40
	nn	0D	1	00-7F	VELOCITY SENSE OFFSET	0-127	40
	nn	0E	1	00-7F	PAN	0:random, L63...C...R63 (1...64...127)	40
	nn	0F	1	00-7F	NOTE LIMIT LOW	C-2-G8	00
	nn	10	1	00-7F	NOTE LIMIT HIGH	C-2-G8	7F
	nn	11	1	00-7F	DRY LEVEL	0-127	7F
	nn	12	1	00-7F	CHORUS SEND	0-127	00
	nn	13	1	00-7F	REVERB SEND	0-127	28
	nn	14	1	00-7F	VARIATION SEND	0-127	00
	nn	15	1	00-7F	VIBRATO RATE	-64 - +63	40
	nn	16	1	00-7F	VIBRATO DEPTH	-64 - +63	40 (drum part ignores)
	nn	17	1	00-7F	VIBRATO DELAY	-64 - +63	40 (drum part ignores)
	nn	18	1	00-7F	FILTER CUTOFF FREQUENCY	-64 - +63	40
	nn	19	1	00-7F	FILTER RESONANCE	-64 - +63	40
	nn	1A	1	00-7F	EG ATTACK TIME	-64 - +63	40
	nn	1B	1	00-7F	EG DECAY TIME	-64 - +63	40
	nn	1C	1	00-7F	EG RELEASE TIME	-64 - +63	40
	nn	1D	1	28-58	MW PITCH CONTROL	-24 - +24 [semitones]	40
	nn	1E	1	00-7F	MW FILTER CONTROL	-9600 - +9450 [cent]	40
	nn	1F	1	00-7F	MW AMPLITUDE CONTROL	-64 - +63	40
	nn	20	1	00-7F	MW LFO PMOD DEPTH	0-127	0A
	nn	21	1	00-7F	MW LFO FMOD DEPTH	0-127	00
	nn	22	1	00-7F	MW LFO AMOD DEPTH	0-127	00
	nn	23	1	28-58	BEND PITCH CONTROL	-24 - +24 [semitones]	42
	nn	24	1	00-7F	BEND FILTER CONTROL	-9600 - +9450 [cent]	40
	nn	25	1	00-7F	BEND AMPLITUDE CONTROL	-64 - +63	40
	nn	26	1	00-7F	BEND LFO PMOD DEPTH	+100 - +100 [%]	40
	nn	27	1	00-7F	BEND LFO FMOD DEPTH	+100 - +100 [%]	40
	nn	28	1	00-7F	BEND LFO AMOD DEPTH	+100 - +100 [%]	40
TOTAL SIZE			29				

Address (H)		Size (H)	Data (H)	Parameter	Description	Default value(H)
nn	30	1	00-01	Rcv PITCH BEND	0:OFF, 1:ON	01
nn	31	1	00-01	Rcv CH AFTER TOUCH (CAT)	0:OFF, 1:ON	01
nn	32	1	00-01	Rcv PROGRAM CHANGE	0:OFF, 1:ON	01
nn	33	1	00-01	Rcv CONTROL CHANGE	0:OFF, 1:ON	01
nn	34	1	00-01	Rcv POLY AFTER TOUCH (PAT)	0:OFF, 1:ON	01
nn	35	1	00-01	Rcv NOTE MESSAGE	0:OFF, 1:ON	01
nn	36	1	00-01	Rcv RPN	0:OFF, 1:ON	01
nn	37	1	00-01	Rcv NRPN	0:OFF, 1:ON	XG=01, GM=00
nn	38	1	00-01	Rcv MODULATION	0:OFF, 1:ON	01
nn	39	1	00-01	Rcv VOLUME	0:OFF, 1:ON	01
nn	3A	1	00-01	Rcv PAN	0:OFF, 1:ON	01
nn	3B	1	00-01	Rcv EXPRESSION	0:OFF, 1:ON	01
nn	3C	1	00-01	Rcv HOLD1	0:OFF, 1:ON	01
nn	3D	1	00-01	Rcv PORTAMENTO	0:OFF, 1:ON	01
nn	3E	1	00-01	Rcv SOSTENUTO	0:OFF, 1:ON	01
nn	3F	1	00-01	Rcv SOFT PEDAL	0:OFF, 1:ON	01
nn	40	1	00-01	Rcv BANK SELECT	0:OFF, 1:ON	XG=01, GM=00
nn	41	1	00-7F	SCALE TUNING C	-64 - +63 [cent]	40
nn	42	1	00-7F	SCALE TUNING C#	-64 - +63 [cent]	40
nn	43	1	00-7F	SCALE TUNING D	-64 - +63 [cent]	40
nn	44	1	00-7F	SCALE TUNING D#	-64 - +63 [cent]	40
nn	45	1	00-7F	SCALE TUNING E	-64 - +63 [cent]	40
nn	46	1	00-7F	SCALE TUNING F	-64 - +63 [cent]	40
nn	47	1	00-7F	SCALE TUNING F#	-64 - +63 [cent]	40
nn	48	1	00-7F	SCALE TUNING G	-64 - +63 [cent]	40
nn	49	1	00-7F	SCALE TUNING G#	-64 - +63 [cent]	40
nn	4A	1	00-7F	SCALE TUNING A	-64 - +63 [cent]	40
nn	4B	1	00-7F	SCALE TUNING A#	-64 - +63 [cent]	40
nn	4C	1	00-7F	SCALE TUNING B	-64 - +63 [cent]	40
nn	4D	1	28-58	CAT PITCH CONTROL	-24 - +24 [semitones]	40
nn	4E	1	00-7F	CAT FILTER CONTROL	-9600 - +9450 [cent]	40
nn	4F	1	00-7F	CAT AMPLITUDE CONTROL	-64 - +63	40
nn	50	1	00-7F	CAT LFO PMOD DEPTH	0-127	00
nn	51	1	00-7F	CAT LFO FMOD DEPTH	0-127	00
nn	52	1	00-7F	CAT LFO AMOD DEPTH	0-127	00
nn	53	1	28-58	PAT PITCH CONTROL	-24 - +24 [semitones]	40
nn	54	1	00-7F	PAT FILTER CONTROL	-9600 - +9450 [cent]	40
nn	55	1	00-7F	PAT AMPLITUDE CONTROL	-64 - +63	40
nn	56	1	00-7F	PAT LFO PMOD DEPTH	0-127	00
nn	57	1	00-7F	PAT LFO FMOD DEPTH	0-127	00
nn	58	1	00-7F	PAT LFO AMOD DEPTH	0-127	00
nn	59	1	00-5F	AC1 CONTROLLER NUMBER	0-95	10
nn	5A	1	28-58	AC1 PITCH CONTROL	-24 - +24 [semitones]	40
nn	5B	1	00-7F	AC1 FILTER CONTROL	-9600 - +9450 [cent]	40
nn	5C	1	00-7F	AC1 AMPLITUDE CONTROL	-64 - +63	40
nn	5D	1	00-7F	AC1 LFO PMOD DEPTH	0-127	00
nn	5E	1	00-7F	AC1 LFO FMOD DEPTH	0-127	00
nn	5F	1	00-7F	AC1 LFO AMOD DEPTH	0-127	00
nn	60	1	00-5F	AC2 CONTROLLER NUMBER	0-95	11
nn	61	1	28-58	AC2 PITCH CONTROL	-24 - +24 [semitones]	40
nn	62	1	00-7F	AC2 FILTER CONTROL	-9600 - +9450 [cent]	40
nn	63	1	00-7F	AC2 AMPLITUDE CONTROL	-64 - +63	40
nn	64	1	00-7F	AC2 LFO PMOD DEPTH	0-127	00
nn	65	1	00-7F	AC2 LFO FMOD DEPTH	0-127	00
nn	66	1	00-7F	AC2 LFO AMOD DEPTH	0-127	00
nn	67	1	00-01	PORTAMENTO SWITCH	0:OFF, 1:ON	00
nn	68	1	00-7F	PORTAMENTO TIME	0-127	00

Address (H)		Size (H)	Data (H)	Parameter	Description	Default value(H)
nn	69	1	00-7F	PITCH EG INITIAL LEVEL	-64 - +63	40
nn	6A	1	00-7F	PITCH EG ATTACK TIME	-64 - +63	40
nn	6B	1	00-7F	PITCH EG RELEASE LEVEL	-64 - +63	40
nn	6C	1	00-7F	PITCH EG RELEASE TIME	-64 - +63	40
nn	6D	1	01-7F	VELOCITY LIMIT LOW	1-127	01
nn	6E	1	01-7F	VELOCITY LIMIT HIGH	1-127	7F
TOTAL SIZE		3F				

nn = Part Number (0 : Part 1, 1 : Part 2, 2 : Part 3, ... , 15 : Part 16)
For the DRUM PART, the following parameters have no effect.

* SOFT PEDAL	* BANK SELECT LSB	* MONO/POLY	* SCALE TUNING	* PORTAMENTO
* POLY AFTER TOUCH	* PITCH EG INITIAL LEVEL	* PITCH EG ATTACK TIME	* PITCH EG RELEASE LEVEL	* PITCH EG RELEASE TIME

● Table 1-5

MIDI Parameter Change Table (A/D PART) **[XG]**

Address (H)			Size (H)	Data (H)	Parameter	Description	Default value(H)
10	00	00	1		INPUT GAIN	0:MIC, 1:LINE	00
	00	01	1	00-7F	BANK SELECT MSB	0-127	00
	00	02	1	00-7F	BANK SELECT LSB	0-127	00
	00	03	1	00-7F	PROGRAM NUMBER	1-128	02
	00	04	1	00-0F,7F	Rcv CHANNEL	1-16,OFF	7F
	00	05	1		NOT USED		
	00	06	1		NOT USED		
	00	07	1		NOT USED		
	00	08	1		NOT USED		
	00	09	1		NOT USED		
	00	0A	1		NOT USED		
	00	0B	1	00-7F	VOLUME	0-127	64
	00	0C	1		NOT USED		
	00	0D	1		NOT USED		
	00	0E	1	01-7F	PAN	L63...C...R63 (1...64...127)	40
	00	0F	1		NOT USED		
	00	10	1		NOT USED		
	00	11	1	00-7F	DRY LEVEL	0-127	7F
	00	12	1	00-7F	CHORUS SEND	0-127	00
	00	13	1	00-7F	REVERB SEND	0-127	28
	00	14	1	00-7F	VARIATION SEND	0-127	00
TOTAL SIZE			15				
10	00	30	1		NOT USED		
	00	31	1		NOT USED		
	00	32	1	00-01	Rcv PROGRAM CHANGE	0:OFF, 1:ON	00
	00	33	1	00-01	Rcv CONTROL CHANGE	0:OFF, 1:ON	01
	00	34	1		NOT USED		
	00	35	1		NOT USED		
	00	36	1		NOT USED		
	00	37	1		NOT USED		
	00	38	1		NOT USED		
	00	39	1	00-01	Rcv VOLUME	0:OFF, 1:ON	01
	00	3A	1	00-01	Rcv PAN	0:OFF, 1:ON	01
	00	3B	1	00-01	Rcv EXPRESSION	0:OFF, 1:ON	01
	00	3C	1		NOT USED		
	00	3D	1		NOT USED		
	00	3E	1		NOT USED		
	00	3F	1		NOT USED		
	00	40	1	00-01	Rcv BANK SELECT	0:OFF, 1:ON	00
	00	41	1		NOT USED		
	00	42	1		NOT USED		
	00	43	1		NOT USED		
	00	44	1		NOT USED		
	00	45	1		NOT USED		
	00	46	1		NOT USED		
	00	47	1		NOT USED		

Address (H)	Size (H)	Data (H)	Parameter	Description	Default value(H)
00 48	1		NOT USED		
00 49	1		NOT USED		
00 4A	1		NOT USED		
00 4B	1		NOT USED		
00 4C	1		NOT USED		
00 4D	1		NOT USED		
00 4E	1		NOT USED		
00 4F	1		NOT USED		
00 50	1		NOT USED		
00 51	1		NOT USED		
00 52	1		NOT USED		
00 53	1		NOT USED		
00 54	1		NOT USED		
00 55	1		NOT USED		
00 56	1		NOT USED		
00 57	1		NOT USED		
00 58	1		NOT USED		
00 59	1	00-5F	AC1 CONTROLLER NUMBER	0-95	10
00 5A	1		NOT USED		
00 5B	1		NOT USED		
00 5C	1		NOT USED		
00 5D	1		NOT USED		
00 5E	1		NOT USED		
00 5F	1		NOT USED		
00 60	1	00-5F	AC2 CONTROLLER NUMBER	0-95	11
TOTAL SIZE	31				

● Table 1-6

MIDI Parameter Change Table (DRUM SETUP) **[XG]**

Address (H)	Size (H)	Data (H)	Parameter	Description	Default value(H)
3n rr 00	1	00-7F	PITCH COARSE	-64 - +63	40
3n rr 01	1	00-7F	PITCH FINE	-64 - +63[cent]	40
3n rr 02	1	00-7F	LEVEL	0-127	depend on the note
3n rr 03	1	00-7F	ALTERNATE GROUP	0:OFF, 1-127	depend on the note
3n rr 04	1	00-7F	PAN	0:random, L63...C...R63 (1...64...127)	depend on the note
3n rr 05	1	00-7F	REVERB SEND	0-127	depend on the note
3n rr 06	1	00-7F	CHORUS SEND	0-127	depend on the note
3n rr 07	1	00-7F	VARIATION SEND	0-127	7F
3n rr 08	1	00-01	KEY ASSIGN	0:SINGLE, 1:MULTI	00
3n rr 09	1	00-01	Rcv NOTE OFF	0:OFF, 1:ON	depend on the note
3n rr 0A	1	00-01	Rcv NOTE ON	0:OFF, 1:ON	01
3n rr 0B	1	00-7F	FILTER CUTOFF FREQUENCY	-64 - +63	40
3n rr 0C	1	00-7F	FILTER RESONANCE	-64 - +63	40
3n rr 0D	1	00-7F	EG ATTACK RATE	-64 - +63	40
3n rr 0E	1	00-7F	EG DECAY1 RATE	-64 - +63	40
3n rr 0F	1	00-7F	EG DECAY2 RATE	-64 - +63	40
TOTAL SIZE	10				

[Note]
n : Drum Setup number (0, 1)
rr : note number (0D-5B)
When XG system on or GM mode on messages are received, all Drum Setup parameters are initialized.
The Drum Setup Reset message can be used to initialize each Drum Setup parameter.
Selecting a Drum Set will cause the Drum Setup parameter values to be initialized.

● Table 2-1

Parameter Base Address
Model ID = 49 **[MU10]**

Parameter Change				
	Address			Description
	High	Mid	Low	
MU80 SYSTEM	00	00	00	System
DB60XG SYSTEM	01	00	00	System

● Table 2-2

MIDI Parameter Change Table (SYSTEM) **[MU10]**

Address (H)			Size (H)	Data (H)	Parameter	Description	Default value(H)
00	00	00	1		NOT USED		
00	00	01	1		NOT USED		
00	00	02	1		NOT USED		
00	00	03	1		NOT USED		
00	00	04	1		NOT USED		
00	00	05	1		NOT USED		
00	00	06	1		NOT USED		
00	00	07	1		NOT USED		
00	00	08	1		NOT USED		
00	00	09	1	00-07	MULTI PORT NUMBER for MIDI OUT	1-8	01
01	00	00	1		NOT USED		
		01	1	00-01	KARAOKE LOCK	OFF/ON	00

● Table 3-1

Parameter Base Address
Model ID = 4B **[QS300]**

Bulk Dump				
	Address			Description
	High	Mid	Low	
User Normal Voice	11	00	00	User Normal Voice 1
		:		:
	11	1F	00	User Normal Voice 32

● Table 3-2

MIDI Bulk Dump Table (USER NORMAL VOICE) **[QS300]**

Address (H)			Size (H)	Data (H)	Parameter	Description	Default value(H)
						[Common]	
11	nn	00	17D	20-7E	Voice Name		
		:					
		07					
		08			NOT USED		
		:			NOT USED		
		0A			NOT USED		
		0B		01-03	Element Switch	1:Element 1 on, 2:Element 2 on, 3:Element 1 and 2 on	
		0C		00-7F	Voice Level		
		0D			NOT USED		
		:			NOT USED		
		3C			NOT USED		

Address (H)	Size (H)	Data (H)	Parameter	Description	Default value(H)
				[Element 1]	
3D		00-7F	Wave Number High	bit 13 - bit 7	
3E		00-7F	Wave Number Low	bit 6 - bit 0	
3F		00-7F	Note Limit Low		
40		00-7F	Note Limit High		
41		00-7F	Velocity Limit Low		
42		00-7F	Velocity Limit High		
43		00-01	Filter EG Velocity Curve		
44		00-02	LFO Wave Select	0:saw, 1:tri, 2:S&H	
45		00-01	LFO Phase Initialize	0:OFF, 1:ON	
46		00-3F	LFO Speed		
47		00-7F	LFO Delay		
48		00-7F	LFO Fade Time		
49		00-3F	LFO PMD Depth		
4A		00-0F	LFO CMD Depth		
4B		00-1F	LFO AMD Depth		
4C		20-60	Note Shift		
4D		0E-72	Detune		
4E		00-05	Pitch Scaling	0:100%, 1:50%, 2:20%, 3:10%, 4:5%, 5:0%	
4F		00-7F	Pitch Scaling Center Note		
50		00-03	Pitch EG Depth	0:1/2oct, 1:1oct, 2:2oct, 3:4oct	
51		39-47	Velocity PEG Level Sensitivity		
52		39-47	Velocity PEG Rate Sensitivity		
53		39-47	PEG Rate Scaling		
54		00-7F	PEG Rate Scaling Center Note		
55		00-3F	PEG Rate 1		
56		00-3F	PEG Rate 2		
57		00-3F	PEG Rate 3		
58		00-3F	PEG Rate 4		
59		00-7F	PEG Level 0		
5A		00-7F	PEG Level 1		
5B		00-7F	PEG Level 2		
5C		00-7F	PEG Level 3		
5D		00-7F	PEG Level 4		
5E		00-3F	Filter Resonance		
5F		00-07	Velocity Sensitivity		
60		00-7F	Cutoff Frequency		
61		00-7F	Cutoff Scaling Break Point 1		
62		00-7F	Cutoff Scaling Break Point 2		
63		00-7F	Cutoff Scaling Break Point 3		
64		00-7F	Cutoff Scaling Break Point 4		
65		00-7F	Cutoff Scaling Offset 1		
66		00-7F	Cutoff Scaling Offset 2		
67		00-7F	Cutoff Scaling Offset 3		
68		00-7F	Cutoff Scaling Offset 4		
69		39-47	Velocity FEG Level Sensitivity		
6A		39-47	Velocity FEG Rate Sensitivity		
6B		39-47	FEG Rate Scaling		
6C		00-7F	FEG Rate Scaling Center Note		
6D		00-3F	FEG Rate 1		
6E		00-3F	FEG Rate 2		
6F		00-3F	FEG Rate 3		
70		00-3F	FEG Rate 4		
71		00-7F	FEG Level 0		
72		00-7F	FEG Level 1		
73		00-7F	FEG Level 2		
74		00-7F	FEG Level 3		
75		00-7F	FEG Level 4		
76		00-7F	Element Level		
77		00-7F	Level Scaling Break Point 1		
78		00-7F	Level Scaling Break Point 2		
79		00-7F	Level Scaling Break Point 3		
7A		00-7F	Level Scaling Break Point 4		
7B		00-7F	Level Scaling Offset 1		
7C		00-7F	Level Scaling Offset 2		
7D		00-7F	Level Scaling Offset 3		
7E		00-7F	Level Scaling Offset 4		
7F		00-06	Velocity Curve		

Address (H)	Size (H)	Data (H)	Parameter	Description	Default value(H)
80		00-0F	Pan	0(Left)-14(Right),15:Scaling	
81		39-47	AEG Rate Scaling		
82		00-7F	AEG Scaling Center Note		
83		00-0F	AEG Key on Delay		
84		00-7F	AEG Attack Rate		
85		00-7F	AEG Decay 1 Rate		
86		00-7F	AEG Decay 2 Rate		
87		00-7F	AEG Release Rate		
88		00-7F	AEG Decay 1 Level		
89		00-7F	AEG Decay 2 Level		
8A		00-7F	Address Offset High	bit 13 - bit 7	
8B		00-7F	Address Offset Low	bit 6 - bit 0	
8C		39-47	Resonance Sensitivity		
				[Element 2]	
8D				Same as [Element 1]	
:				Same as [Element 1]	
DC				Same as [Element 1]	
				[Element 3]	
DD				NOT USED	
:				NOT USED	
12C				NOT USED	
12D				[Element 4]	
:				NOT USED	
17C				NOT USED	
TOTAL SIZE	17D				

nn=Voice Number (00-1F)

XG Normal Voice List

Bank Select MSB=000, LSB=Bank Number

Instrument Group	Program #	Bank #	Voice Name	Element
Piano	1	0	GrandPno	1
		1	GrndPnoK	1
		18	MelloGrP	1
		40	PianoStr	2
		41	Dream	2
	2	0	BritePno	1
		1	BritPnoK	1
	3	0	E.Grand	2
		1	ElGrPnoK	2
		32	Det.CP80	2
		40	ElGrPno1	2
		41	ElGrPno2	2
	4	0	HnkyTonk	2
		1	HnkyTnkK	2
	5	0	E.Piano1	2
		1	El.Pno1K	1
		18	MelloEP1	2
		32	Chor.EP1	2
		40	HardEl.P	2
		45	VX El.P1	2
		64	60sEl.P	1
	6	0	E.Piano2	2
		1	El.Pno2K	1
		32	Chor.EP2	2
		33	DX Hard	2
		34	DXLegend	2
		40	DX Phase	2
		41	DX+Analg	2
		42	DXKotoEP	2
		45	VX El.P2	2
	7	0	Harpsi.	1
		1	Harpsi.K	1
		25	Harpsi.2	2
		35	Harpsi.3	2
	8	0	Clavi.	2
		1	Clavi. K	1
		27	ClaviWah	2
		64	PulseClv	1
		65	PierceCl	2
Chromatic Percussion	9	0	Celesta	1
	10	0	Glocken	1
	11	0	MusicBox	2
		64	Orgel	2
	12	0	Vibes	1
		1	VibesK	1
		45	HardVibe	2
	13	0	Marimba	1
		1	MarimbaK	1
		64	SineMrmb	2
		97	Balafon2	2
		98	Log Drum	2
	14	0	Xylophon	1
	15	0	TubulBel	1
		96	ChrchBel	2
		97	Carillon	2
	16	0	Dulcimer	1
		35	Dulcimr2	2
		96	Cimbalom	2
		97	Santur	2

Instrument Group	Program #	Bank #	Voice Name	Element
Organ	17	0	DrawOrgn	1
		32	DetDrwOr	2
		33	60sDrOr1	2
		34	60sDrOr2	2
		35	70sDrOr1	2
		36	DrawOrg2	2
		37	60sDrOr3	2
		38	EvenBar	2
		40	16+2"2/3	2
		64	Organ Ba	1
		65	70sDrOr2	2
		66	CheezOrg	2
		67	DrawOrg3	2
	18	0	PercOrgn	1
		24	70sPcOr1	2
		32	DetPrcOr	2
		33	LiteOrg	2
		37	PercOrg2	2
	19	0	RockOrgn	2
		64	RotaryOr	2
		65	SloRotar	2
		66	FstRotar	2
	20	0	ChrchOrg	2
		32	ChurOrg3	2
		35	ChurOrg2	2
		40	NotreDam	2
		64	OrgFlute	2
		65	TrmOrgFl	2
	21	0	ReedOrgn	1
		40	Puff Org	2
	22	0	Acordion	2
		32	AccordIt	2
	23	0	Harmnica	1
		32	Harmo 2	2
	24	0	TangoAcd	2
		64	TngoAcd2	2
Guitar	25	0	NylonGtr	1
		16	NylonGt2	1
		25	NylonGt3	2
		43	VelGtHrm	2
		96	Ukulele	1
	26	0	SteelGtr	1
		16	SteelGt2	1
		35	12StrGtr	2
		40	Nyln&Stl	2
		41	Stl&Body	2
		96	Mandolin	2
	27	0	Jazz Gtr	1
		18	MelloGtr	1
		32	JazzAmp	2
	28	0	CleanGtr	1
		32	ChorusGt	2
	29	0	Mute.Gtr	1
		40	FunkGtr1	2
		41	MuteStlG	2
		43	FunkGtr2	2
		45	Jazz Man	1
	30	0	Ovrdrive	1
		43	Gt.Pinch	2
	31	0	Dist.Gtr	1
		40	FeedbkGt	2
		41	FeedbGt2	2
	32	0	GtrHarmo	1
		65	GtFeedbk	1
		66	GtrHrmo2	1

Instrument Group	Program #	Bank #	Voice Name	Element
Bass	33	0	Aco.Bass	1
		40	JazzRthm	2
		45	VXUprght	2
	34	0	FngrBass	1
		18	FingrDrk	2
		27	FlangeBa	2
		40	Ba&DstEG	2
		43	FngrSlap	2
		45	FngBass2	2
		65	ModAlem	2
	35	0	PickBass	1
		28	MutePkBa	1
	36	0	Fretless	1
		32	Fretles2	2
		33	Fretles3	2
		34	Fretles4	2
		96	SynFretl	2
		97	Smooth	2
	37	0	SlapBas1	1
		27	ResoSlap	1
		32	PunchThm	2
	38	0	SlapBas2	1
		43	VeloSlap	2
	39	0	SynBass1	1
		18	SynBa1Dk	1
		20	FastResB	1
		24	AcidBass	1
		35	Clv Bass	2
		40	TeknoBa	2
		64	Oscar	2
		65	SqrBass	1
		66	RubberBa	2
		96	Hammer	2
	40	0	SynBass2	2
		6	MelloSB1	1
		12	Seq Bass	2
		18	ClkSynBa	2
		19	SynBa2Dk	1
		32	SmthBa 2	2
		40	ModulrBa	2
		41	DX Bass	2
		64	X WireBa	2
Strings	41	0	Violin	1
		8	SlowVln	1
	42	0	Viola	1
	43	0	Cello	1
	44	0	Contrabs	1
	45	0	Trem.Str	1
		8	SlowTrStr	1
		40	Susp Str	2
	46	0	Pizz.Str	1
	47	0	Harp	1
		40	YangChin	2
	48	0	Timpani	1

Instrument Group	Program #	Bank #	Voice Name	Element
Ensemble	49	0	Strings1	1
		3	S.Strngs	2
		8	SlowStr	1
		24	ArcoStr	2
		35	60sStrng	2
		40	Orchestr	2
		41	Orchstr2	2
		42	TremOrch	2
		45	VeloStr	2
	50	0	Strings2	1
		3	S.SlwStr	2
		8	LegatoSt	2
		40	Warm Str	2
		41	Kingdom	2
		64	70s Str	1
		65	Str Ens3	1
	51	0	Syn.Str1	2
		27	ResoStr	2
		64	Syn Str4	2
		65	SS Str	2
	52	0	Syn.Str2	2
	53	0	ChoirAah	1
		3	S.Choir	2
		16	Ch.Aahs2	2
		32	MelChoir	2
		40	ChoirStr	2
	54	0	VoiceOoh	1
	55	0	SynVoice	1
		40	SynVox2	2
		41	Choral	2
		64	AnaVoice	1
	56	0	Orch.Hit	2
		35	OrchHit2	2
		64	Impact	2
Brass	57	0	Trumpet	1
		16	Trumpet2	1
		17	BriteTrp	2
		32	WarmTrp	2
	58	0	Trombone	1
		18	Trmbone2	2
	59	0	Tuba	1
		16	Tuba 2	1
	60	0	Mute.Trp	1
	61	0	Fr.Horn	2
		6	FrHrSolo	2
		32	FrHorn2	1
		37	HornOrch	2
	62	0	BrasSect	1
		35	Tp&TbSec	2
		40	BrssSec2	2
		41	HiBrass	2
		42	MelloBrs	2
	63	0	SynBras1	2
		12	QuackBr	2
		20	RezSynBr	2
		24	PolyBrss	2
		27	SynBras3	2
		32	JumpBrss	2
		45	AnaVelBr	2
		64	AnaBrss1	2
	64	0	SynBras2	1
		18	Soft Brs	2
		40	SynBras4	2
		41	ChorBrss	2
		45	VelBras2	2
		64	AnaBras2	2

Bank 0 : (GM)
Bank 1 : Key Scale Panning
Bank 3 : Stereo
Bank 6 : Single
Bank 8 : Slow
Bank 12 : Fast Decay
Bank 14 : Double Attack
Bank 16 : Bright
Bank 17 : Bright
Bank 18 : Dark
Bank 19 : Dark
Bank 20 : Resonant
Bank 24 : Attack
Bank 25 : Release
Bank 27 : Reso Sweep
Bank 28 : Muted
Bank 32 : Detune 1
Bank 33 : Detune 2
Bank 34 : Detune 3
Bank 35 : Octave 1
Bank 36 : Octave 2
Bank 37 : 5th 1
Bank 38 : 5th 2
Bank 39 : Bend
Bank 40 : Tutti
Bank 41 : Tutti
Bank 42 : Tutti
Bank 43 : Velo-Switch
Bank 45 : Velo-Xfade
Bank 64 : Other wave
Bank 65 : Other wave
Bank 66 : Other wave
Bank 67 : Other wave
Bank 68 : Other wave
Bank 69 : Other wave
Bank 70 : Other wave
Bank 71 : Other wave
Bank 72 : Other wave
Bank 96 : Other wave
Bank 97 : Other wave
Bank 98 : Other wave
Bank 99 : Other wave
Bank 100 : Other wave
Bank 101 : Other wave

Instrument Group	Program #	Bank #	Voice Name	Element
Reed	65	0	SprnoSax	1
	66	0	Alto Sax	1
		40	Sax Sect	2
		43	HyprAlto	2
	67	0	TenorSax	1
		40	BrthTnSx	2
		41	SoftTenr	2
		64	TnrSax 2	1
	68	0	Bari.Sax	1
	69	0	Oboe	2
	70	0	Eng.Horn	1
	71	0	Bassoon	1
	72	0	Clarinet	1
Pipe	73	0	Piccolo	1
	74	0	Flute	1
	75	0	Recorder	1
	76	0	PanFlute	1
	77	0	Bottle	2
	78	0	Shakhchi	2
	79	0	Whistle	1
	80	0	Ocarina	1
Synth Lead	81	0	SquareLd	2
		6	Square 2	1
		8	LMSquare	2
		18	Hollow	1
		19	Shmoog	2
		64	Mellow	2
		65	SoloSine	2
		66	SineLead	1
	82	0	Saw.Lead	2
		6	Saw 2	1
		8	ThickSaw	2
		18	DynaSaw	1
		19	DigiSaw	2
		20	Big Lead	2
		24	HeavySyn	2
		25	WaspySyn	2
		40	PulseSaw	2
		41	Dr. Lead	2
		45	VeloLead	2
		96	Seq Ana	2
	83	0	CaliopLd	2
		65	Pure Pad	2
	84	0	Chiff Ld	2
		64	Rubby	2
	85	0	CharanLd	2
		64	DistLead	2
		65	WireLead	2
	86	0	Voice Ld	2
		24	SynthAah	2
		64	VoxLead	2
	87	0	Fifth Ld	2
		35	Big Five	2
	88	0	Bass &Ld	2
		16	Big&Low	2
		64	Fat&Prky	2
		65	SoftWurl	2
Synth Pad	89	0	NewAgePd	2
		64	Fantasy2	2
	90	0	Warm Pad	2
		16	ThickPad	2
		17	Soft Pad	2
		18	SinePad	2
		64	Horn Pad	2
		65	RotarStr	2
	91	0	PolySyPd	2
		64	PolyPd80	2
		65	ClickPad	2
		66	Ana Pad	2
		67	SquarPad	2

Instrument Group	Program #	Bank #	Voice Name	Element
Synth Pad	92	0	ChoirPad	2
		64	Heaven2	2
		66	Itopia	2
		67	CC Pad	2
	93	0	BowedPad	2
		64	Glacier	2
		65	GlassPad	2
	94	0	MetalPad	2
		64	Tine Pad	2
		65	Pan Pad	2
	95	0	Halo Pad	2
	96	0	SweepPad	2
		20	Shwimmer	2
		27	Converge	2
		64	PolarPad	2
		66	Celstial	2
Synth Effects	97	0	Rain	2
		45	ClaviPad	2
		64	HrmoRain	2
		65	AfrcnWnd	2
		66	Caribean	2
	98	0	SoundTrk	2
		27	Prologue	2
		64	Ancestrl	2
	99	0	Crystal	2
		12	SynDrCmp	2
		14	Popcorn	2
		18	TinyBell	2
		35	RndGlock	2
		40	GlockChi	2
		41	ClearBel	2
		42	ChorBell	2
		64	SynMalet	1
		65	SftCryst	2
		66	LoudGlok	2
		67	XmasBell	2
		68	VibeBell	2
		69	DigiBell	2
		70	AirBells	2
		71	BellHarp	2
		72	Gamelmba	2
	100	0	Atmosphr	2
		18	WarmAtms	2
		19	HollwRls	2
		40	NylonEP	2
		64	NylnHarp	2
		65	Harp Vox	2
		66	AtmosPad	2
		67	Planet	2
	101	0	Bright	2
		64	FantaBel	2
		96	Smokey	2
	102	0	Goblins	2
		64	GobSyn	2
		65	50sSciFi	2
		66	Ring Pad	2
		67	Ritual	2
		68	ToHeaven	2
		70	Night	2
		71	Glisten	2
		96	BelChoir	2
	103	0	Echoes	2
		8	EchoPad2	2
		14	Echo Pan	2
		64	EchoBell	2
		65	Big Pan	2
		66	SynPiano	2
		67	Creation	2
		68	Stardust	2
		69	Reso Pan	2
	104	0	Sci-Fi	2
		64	Starz	2

Instrument Group	Program #	Bank #	Voice Name	Element
Ethnic	105	0	Sitar	1
		32	DetSitar	2
		35	Sitar 2	2
		96	Tambra	2
		97	Tamboura	2
	106	0	Banjo	1
		28	MuteBnjo	1
		96	Rabab	2
		97	Gopichnt	2
		98	Oud	2
	107	0	Shamisen	1
	108	0	Koto	1
		96	T. Koto	2
		97	Kanoon	2
	109	0	Kalimba	1
	110	0	Bagpipe	2
	111	0	Fiddle	1
	112	0	Shanai	1
		64	Shanai2	1
		96	Pungi	1
		97	Hichriki	2
Percussive	113	0	TnklBell	2
		96	Bonang	2
		97	Gender	2
		98	Gamelan	2
		99	S.Gamlan	2
		100	Rama Cym	2
		101	AsianBel	2
	114	0	Agogo	2
	115	0	SteelDrm	2
		97	GlasPerc	2
		98	ThaiBell	2
	116	0	WoodBlok	1
		96	Castanet	1
	117	0	TaikoDrm	1
		96	Gr.Cassa	1
	118	0	MelodTom	2
		64	Mel Tom2	1
		65	Real Tom	2
		66	Rock Tom	2
	119	0	Syn.Drum	1
		64	Ana Tom	1
		65	ElecPerc	2
	120	0	RevCymbl	1
Sound Effects	121	0	FretNoiz	2
	122	0	BrthNoiz	2
	123	0	Seashore	2
	124	0	Tweet	2
	125	0	Telphone	1
	126	0	Helicptr	1
	127	0	Applause	1
	128	0	Gunshot	1

Bank Select MSB=064, LSB=000 SFX voice

Program #	MSB=064 LSB=000	Element	Program #	MSB=064 LSB=000	Element
1	CuttngNz	1	65	Tel.Dial	1
2	CttngNz2	2	66	DoorSqek	1
3			67	Door Slam	1
4	Str Slap	1	68	Scratch	1
5			69	Scratch 2	2
6			70	WindChm	1
7			71	Telphon2	1
8			72		
9			73		
10			74		
11			75		
12			76		
13			77		
14			78		
15			79		
16			80		
17	Fl.KClik	1	81	CarEngin	1
18			82	Car Stop	1
19			83	Car Pass	1
20			84	CarCrash	1
21			85	Siren	2
22			86	Train	1
23			87	Jetplane	2
24			88	Starship	2
25			89	Burst	2
26			90	Coaster	2
27			91	SbMarine	2
28			92		
29			93		
30			94		
31			95		
32			96		
33	Rain	1	97	Laughing	1
34	Thunder	1	98	Scream	1
35	Wind	1	99	Punch	1
36	Stream	2	100	Heart	1
37	Bubble	2	101	FootStep	1
38	Feed	2	102		
39			103		
40			104		
41			105		
42			106		
43			107		
44			108		
45			109		
46			110		
47			111		
48			112		
49	Dog	1	113	MchinGun	1
50	Horse	1	114	LaserGun	2
51	Bird 2	1	115	Xplosion	2
52			116	FireWork	2
53			117		
54			118		
55	Ghost	2	119		
56	Maou	2	120		
57			121		
58			122		
59			123		
60			124		
61			125		
62			126		
63			127		
64			128		

(shaded) : No Sound

TG300B Normal Voice List

Bank Select MSB=Bank Number, LSB=000

Instrument Group	Program #	Bank #	Voice Name	Element
Piano	1	0	GrandPno	1
		8	GrndPnoK	1
		16	MelloGrP	1
		126	A-Piano1	2
		127	a.piano1	1
	2	0	BritePno	1
		8	BritPnoK	1
		126	A-Piano2	2
		127	a.piano2	1
	3	0	E.Grand	2
		1	ElGrPno1	2
		2	ElGrPno2	2
		8	ElGrPnoK	2
		126	A-Piano3	2
		127	a.piano3	1
	4	0	HnkyTonk	2
		8	HnkyTnkK	2
		126	A-Piano4	2
		127	e.piano1	1
	5	0	E.Piano1	2
		8	Chor.EP1	2
		16	VX El.P1	2
		24	60sEl.P	1
		25	HardEl.P	2
		26	MelloEP1	2
		32	El.Pno1K	1
		126	A-Piano5	1
		127	e.piano2	1
	6	0	E.Piano2	2
		8	Chor.EP2	2
		16	VX El.P2	2
		24	DX Hard	2
		32	El.Pno2K	1
		126	A-Piano6	1
		127	e.piano3	1
	7	0	Harpsi.	1
		8	Harpsi.3	2
		16	Harpsi.K	1
		24	Harpsi.2	2
		126	A-Piano7	1
		127	e.piano4	1
	8	0	Clavi.	2
		8	Clavi. K	1
		126	E-Piano1	2
		127	hnkytnk	2
Chromatic Percussion	9	0	Celesta	1
		126	E-Piano2	2
		127	e.organ1	2
	10	0	Glocken	1
		126	E-Piano3	2
		127	e.organ2	2
	11	0	MusicBox	2
		126	A-Guitr1	1
		127	e.organ3	1
	12	0	Vibes	1
		1	HardVibe	2
		8	VibesK	1
		126	A-Guitr2	2
		127	e.organ4	1
	13	0	Marimba	1
		8	MarimbaK	1
		17	Balafon2	2
		24	Log Drum	2
		126	A-Guitr3	2
		127	pipeorg1	2
	14	0	Xylophon	1
		126	E-Guitr1	2
		127	pipeorg2	2
	15	0	TubulBel	1
		8	ChrchBel	2
		9	Carillon	2
		126	E-Guitr2	1
		127	pipeorg3	2
	16	0	Dulcimer	1
		1	Dulcimr2	2
		8	Cimbalom	2
		126	Slap-1	2
		127	acordion	2
Organ	17	0	DrawOrgn	1
		1	70sDrOr1	2
		8	DetDrwOr	2
		9	70sDrOr2	2
		16	60sDrOr1	2
		17	60sDrOr2	2
		18	60sDrOr3	2
		24	CheezOrg	2
		32	DrawOrg2	2
		33	EvenBar	2
		40	Organ Ba	1
		126	Slap-2	2
		127	harpsi1	1
	18	0	PercOrgn	1
		1	70sPcOr1	2
		8	DetPrcOr	2
		32	PercOrg2	2
		126	Slap-3	2
		127	harpsi2	2
	19	0	RockOrgn	2
		8	RotaryOr	2
		16	SloRotar	2
		24	FstRotar	2
		126	Slap-4	2
		127	harpsi3	1
	20	0	ChrchOrg	2
		8	ChurOrg2	2
		16	ChurOrg3	2
		24	OrgFlute	2
		32	TrmOrgFl	2
		126	Slap-5	2
		127	clavi1	1
	21	0	ReedOrgn	1
		126	Slap-6	2
		127	clavi2	1
	22	0	Acordion	2
		8	AccordIt	2
		126	Slap-7	2
		127	clavi3	1
	23	0	Harmnica	1
		1	Harmo 2	2
		126	Slap-8	2
		127	celesta1	1
	24	0	TangoAcd	2
		126	Finger-1	1
		127	celesta2	1
Guitar	25	0	NylonGtr	1
		8	Ukulele	1
		16	NylonGt3	2
		24	VelGtHrm	2
		32	NylonGt2	1
		40	LequintG	1
		126	Finger-2	2
		127	synbras1	2
	26	0	SteelGtr	1
		8	12StrGtr	2
		9	Nyln&Stl	2
		16	Mandolin	2
		32	SteelGt2	1
		126	Picked-1	1
		127	synbras2	2
	27	0	Jazz Gtr	1
		1	MelloGtr	1
		8	PdlSteel	1
		126	Picked-2	2
		127	synbras3	2
	28	0	CleanGtr	1
		8	ChorusGt	2
		126	FretlsBs	1
		127	synbras4	2
Guitar	29	0	Mute.Gtr	1
		8	FunkGtr1	2
		16	FunkGtr2	2
		126	A-Bass	2
		127	synbass1	1
	30	0	Ovrdrive	1
		126	Choir-1	1
		127	synbass2	1
	31	0	Dist.Gtr	1
		8	FeedbkGt	2
		9	FeedbGt2	2
		126	Choir-2	1
		127	synbass3	2
	32	0	GtrHarmo	1
		8	GtFeedbk	1
		126	Choir-3	2
		127	synbass4	1
Bass	33	0	Aco.Bass	1
		126	Choir-4	2
		127	newagepd	2
	34	0	FngrBass	1
		1	FngBass2	2
		126	Strngs-1	2
		127	synharmo	2
	35	0	PickBass	1
		8	MutePkBa	1
		126	Strngs-2	2
		127	choir pd	2
	36	0	Fretless	1
		1	Fretles2	2
		2	Fretles3	2
		3	Fretles4	2
		4	SynFretl	2
		5	Smooth	2
		126	Strngs-3	2
		127	bowed pd	2
	37	0	SlapBas1	1
		8	ResoSlap	1
		126	Strngs-4	2
		127	soundtrk	2
	38	0	SlapBas2	1
		126	E-Organ1	2
		127	atmosphr	2
	39	0	SynBass1	1
		1	SynBa1Dk	1
		8	AcidBass	1
		9	FastResB	1
		10	TeknoBa	2
		16	ResoBass	1
		126	E-Organ2	2
		127	syn warm	2
	40	0	SynBass2	2
		1	ClkSynBa	2
		2	ModulrBa	2
		3	Seq Bass	2
		8	DX Bass	2
		9	X WireBa	2
		16	RubberBa	2
		17	SynBa2Dk	1
		18	MelloSB1	1
		19	SmthBa 2	2
		126	E-Organ3	2
		127	synfunny	1
Strings	41	0	Violin	1
		8	SlowVln	1
		126	E-Organ4	2
		127	synecho1	2
	42	0	Viola	1
		126	E-Organ5	2
		127	rain	2
	43	0	Cello	1
		126	E-Organ6	2
		127	synoboe	2
	44	0	Contrabs	1
		126	E-Organ7	2
		127	synecho2	2
	45	0	Trem.Str	1
		8	SlowTrStr	1
		9	Susp Str	2
		126	E-Organ8	2
		127	synsolo	2
	46	0	Pizz.Str	1
		126	E-Organ9	2
		127	synrdorg	2
	47	0	Harp	1
		126	SoftTP-1	1
		127	synbell	1
	48	0	Timpani	1
		126	SoftTP-2	1
		127	squareld	2
Ensemble	49	0	Strings1	1
		1	Slow Str	1
		8	Orchestr	2
		9	Orchstr2	2
		10	TremOrch	2
		11	ChoirStr	2
		16	S.Strngs	2
		24	VeloStr	2
		126	TP/TRB-1	1
		127	strsect1	2
	50	0	Strings2	1
		1	70s Str	1
		8	LegatoSt	2
		9	Warm Str	2
		10	S.SlwStr	2
		126	TP/TRB-2	1
		127	strsect2	2
	51	0	Syn.Str1	2
		1	Syn Str4	2
		126	TP/TRB-3	1
		127	strsect3	2
	52	0	Syn.Str2	2
		126	TP/TRB-4	1
		127	pizz.str	1
	53	0	ChoirAah	1
		8	S.Choir	2
		9	MelChoir	2
		32	Ch.Aahs2	2
		126	TP/TRB-5	2
		127	violin 1	2
	54	0	VoiceOoh	1
		126	TP/TRB-6	2
		127	violin 2	1
	55	0	SynVoice	1
		8	SynVox2	2
		126	Sax-1	1
		127	cello 1	1
	56	0	Orch.Hit	2
		1	OrchHit2	2
		8	Impact	2
		16	LoFiRave	2
		126	Sax-2	1
		127	cello 2	1

Instrument Group	Program #	Bank #	Voice Name	Element
Brass	57	0	Trumpet	1
		1	Trumpet2	1
		24	BriteTrp	2
		25	WarmTrp	2
		126	Sax-3	1
		127	contrabs	1
	58	0	Trombone	1
		1	Trmbone2	2
		126	Sax-4	2
		127	harp 1	1
	59	0	Tuba	1
		1	Tuba 2	1
		126	Brass-1	1
		127	harp 2	1
	60	0	Mute.Trp	1
		126	Brass-2	1
		127	guitar 1	1
	61	0	Fr.Horn	2
		1	FrHorn2	2
		8	FrHrSolo	1
		16	HornOrch	2
		126	Brass-3	2
		127	guitar 2	1
	62	0	BrasSect	1
		8	BrssSec2	2
		126	Brass-4	2
		127	elecgtr1	2
	63	0	SynBras1	2
		1	PolyBrss	2
		8	SynBras3	2
		9	QuackBr	2
		16	AnaBrss1	2
		126	Brass-5	2
		127	elecgtr2	2
	64	0	SynBras2	1
		1	Soft Brs	2
		8	SynBras4	2
		16	AnaBrss2	2
		17	VelBras2	2
		126	Orch-Hit	1
		127	sitar	1
Reed	65	0	SprnoSax	1
		127	a.bass 1	1
	66	0	Alto Sax	1
		8	HyprAlto	2
		127	a.bass 2	1
	67	0	TnrSax 2	1
		8	BrthTnSx	2
		127	e.bass 1	1
	68	0	Bari.Sax	1
		127	e.bass 2	1
	69	0	Oboe	2
		127	slapbas1	1
	70	0	Eng.Horn	1
		127	slapbas2	1
	71	0	Bassoon	1
		127	fretles1	1
	72	0	Clarinet	1
		127	fretles2	1
Pipe	73	0	Piccolo	1
		127	flute1	1
	74	0	Flute	1
		127	flute2	1
	75	0	Recorder	1
		127	piccolo1	1
	76	0	PanFlute	1
		127	piccolo2	2
	77	0	Bottle	2
		127	recorder	1
	78	0	Shakhchi	2
		127	panpipes	2
	79	0	Whistle	1
		127	sax1	2
	80	0	Ocarina	1
		127	sax2	1

Instrument Group	Program #	Bank #	Voice Name	Element
Synth Lead	81	0	SquareLd	2
		1	Square 2	1
		2	Hollow	1
		3	Mellow	2
		4	SoloSine	2
		5	Shmoog	2
		6	LMSquare	2
		8	SineLead	1
		127	sax3	1
	82	0	Saw.Lead	2
		1	Saw 2	1
		2	PulseSaw	2
		3	ThickSaw	2
		4	Big Lead	2
		5	VeloLead	2
		6	HeavySyn	2
		7	DynaSaw	1
		8	Dr. Lead	2
		16	WaspySyn	2
		127	sax4	1
	83	0	CaliopLd	2
		2	Pure Pad	2
		127	clarint1	1
	84	0	Chiff Ld	2
		127	clarint2	1
	85	0	CharanLd	2
		8	DistLead	2
		127	oboe	1
	86	0	Voice Ld	2
		127	eng.horn	1
	87	0	Fifth Ld	2
		1	Big Five	2
		127	bassoon	1
	88	0	Bass &Ld	2
		1	Big&Low	2
		2	Fat&Prky	2
		127	harmnica	1
Synth Pad	89	0	NewAgePd	2
		1	Fantasy2	2
		127	trumpet1	1
	90	0	Warm Pad	2
		1	ThickPad	2
		2	Horn Pad	2
		3	RotarStr	2
		4	Soft Pad	2
		127	trumpet2	1
	91	0	PolySyPd	2
		1	PolyPd80	2
		127	trmbone1	2
	92	0	ChoirPad	2
		1	Heaven2	2
		127	trmbone2	2
	93	0	BowedPad	2
		127	fr.horn1	1
	94	0	MetalPad	2
		1	Tine Pad	2
		2	Pan Pad	2
		127	fr.horn2	2
	95	0	Halo Pad	2
		127	tuba	2
	96	0	SweepPad	2
		1	PolarPad	2
		8	Converge	2
		9	Shwimmer	2
		10	Celstial	2
		127	brssect1	1

Instrument Group	Program #	Bank #	Voice Name	Element
Synth Effects	97	0	Rain	2
		1	HrmoRain	2
		2	AfrcnWnd	2
		8	ClaviPad	2
		127	brssect2	2
	98	0	SoundTrk	2
		1	Ancestrl	2
		2	Prologue	2
		127	vibe1	1
	99	0	Crystal	2
		1	SynMalet	1
		2	SftCryst	2
		3	RndGlock	2
		4	LoudGlok	2
		5	GlockChi	2
		6	ClearBel	2
		7	XmasBell	2
		8	VibeBell	2
		9	DigiBell	2
		16	ChorBell	2
		17	AirBells	2
		18	BellHarp	2
		19	Gamelmba	2
		127	vibe2	1
	100	0	Atmosphr	2
		1	WarmAtms	2
		2	NylnHarp	2
		3	Harp Vox	2
		4	HollwRls	2
		5	NylonEP	2
		6	AtmosPad	2
		127	symallet	1
	101	0	Bright	2
		127	maletwin	2
	102	0	Goblins	2
		1	GobSyn	2
		2	50sSciFi	2
		127	glocken	2
	103	0	Echoes	2
		1	EchoBell	2
		2	Echo Pan	2
		3	EchoPad2	2
		4	Big Pan	2
		6	SynPiano	2
		127	tubulbel	1
	104	0	Sci-Fi	2
		1	Starz	2
		127	xylophen	1
Ethnic	105	0	Sitar	1
		1	Sitar 2	2
		2	DetSitar	2
		8	Tambra	2
		16	Tamboura	2
		127	marimba	2
	106	0	Banjo	1
		1	MuteBnjo	1
		8	Rabab	2
		16	Gopichnt	2
		24	Oud	2
		127	koto	1
	107	0	Shamisen	1
		127	sho	2
	108	0	Koto	1
		8	T. Koto	2
		16	Kanoon	2
		127	shakhchi	2
	109	0	Kalimba	1
		127	whistle1	2
	110	0	Bagpipe	2
		127	whistle2	1
	111	0	Fiddle	1
		127	bottle	2
	112	0	Shanai	1
		1	Shanai2	1
		8	Pungi	1
		16	Hichriki	2
		127	breath	2

Instrument Group	Program #	Bank #	Voice Name	Element
Percussive	113	0	TnklBell	2
		8	Bonang	2
		9	Gender	2
		10	Gamelan	2
		11	S.Gamlan	2
		16	Rama Cym	2
		127	timpani	1
	114	0	Agogo	2
		127	melotom	1
	115	0	SteelDrm	2
		127	deepsnar	1
	116	0	WoodBlok	1
		8	Castanet	1
		127	e.perc1	1
	117	0	TaikoDrm	1
		8	Gr.Cassa	1
		127	e.perc2	1
	118	0	MelodTom	2
		1	Real Tom	2
		8	Mel Tom2	1
		9	Rock Tom	2
		127	taiko	1
	119	0	Syn.Drum	1
		8	Ana Tom	1
		9	ElecPerc	2
		127	taikorim	1
	120	0	RevCymbl	1
		127	cymbal	2
Sound Effects	121	0	FretNoiz	2
		1	CuttngNz	1
		2	Str Slap	1
		3	CttngNz2	2
		127	castanet	1
	122	0	BrthNoiz	2
		1	Fl.KClik	1
		127	triangle	1
	123	0	Seashore	2
		1	Rain	1
		2	Thunder	1
		3	Wind	1
		4	Stream	2
		5	Bubble	2
		127	orchehit	1
	124	0	Tweet	2
		1	Dog	1
		2	Horse	1
		3	Bird 2	1
		127	telphone	1
	125	0	Telphone	1
		1	Tel.Dial	1
		2	DoorSqek	1
		3	DoorSlam	1
		4	Scratch	1
		5	WindChm	1
		6	Scratch2	2
		127	bird	1
	126	0	Helicptr	1
		1	CarEngin	1
		2	Car Stop	1
		3	Car Pass	1
		4	CarCrash	1
		5	Siren	2
		6	Train	1
		7	Jetplane	2
		8	Starship	2
		9	Burst	2
		16	Coaster	2
		127	jam	1
	127	0	Applause	1
		1	Laughing	1
		2	Scream	1
		3	Punch	1
		4	Heart	1
		5	FootStep	1
		127	efctwatr	2
	128	0	Gunshot	1
		1	MchinGun	1
		2	LaserGun	2
		3	Xplosion	2
		127	efctjngl	2

XG Drum Voice List

Bank Select MSB=Bank Number, LSB=000

Bank				127	127	127	127	127	127	127	127	127	126	126
Program #				1	2	9	17	25	26	33	41	49	1	2
Note#	Note	Key off	Alternate assign	Standard Kit	Standard2 Kit	Room Kit	Rock Kit	Electro Kit	Analog Kit	Jazz Kit	Brush Kit	Classic Kit	SFX 1	SFX 2
13	C# -1		3	Surdo Mute										
14	D -1		3	Surdo Open										
15	D# -1			Hi Q										
16	E -1			Whip Slap										
17	F -1		4	Scratch Push										
18	F# -1		4	Scratch Pull										
19	G -1			Finger Snap										
20	G# -1			Click Noise										
21	A -1			Metronome Click										
22	A# -1			Metronome Bell										
23	B -1			Seq Click L										
24	C 0			Seq Click H										
25	C# 0			Brush Tap										
26	D 0	O		Brush Swirl L										
27	D# 0			Brush Slap										
28	E 0	O		Brush Swirl H				Reverse Cymbal	Reverse Cymbal					
29	F 0	O		Snare Roll	Snare Roll 2									
30	F# 0			Castanet				Hi Q	Hi Q					
31	G 0			Snare L	Snare L 2		SD Rock M	Snare M	SD Rock H		Brush Slap L			
32	G# 0			Sticks										
33	A 0			Bass Drum L			Bass Drum M	Bass Drum H 4	Bass Drum M			Bass Drum L2		
34	A# 0			Open Rim Shot	Open Rim Shot 2									
35	B 0			Bass Drum M	Bass Drum M 2		Bass Drum H 3	BD Rock	BD Analog L			Gran Cassa		
36	C 1			Bass Drum H	Bass Drum H 2		BD Rock	BD Gate	BD Analog H	BD Jazz	BD Soft	Gran Cassa Mute	Guitar Cutting Noise	Dial Tone
37	C# 1			Side Stick					Analog Side Stick				Guitar Cutting Noise 2	Door Creaking
38	D 1			Snare M	Snare M 2	SD Room L	SD Rock	SD Rock L	Analog Snare L		Brush Slap M	Marching Sn M		Door Slam
39	D# 1			Hand Clap									String Slap	Scratch
40	E 1			Snare H	Snare H 2	SD Room H	SD Rock Rim	SD Rock H	Analog Snare H		Brush Tap H	Marching Sn H		Scratch 2
41	F 1			Floor Tom L		Room Tom 1	Rock Tom 1	E Tom 1	Analog Tom 1	Jazz Tom 1	Brush Tom 1	Jazz Tom 1		Windchime
42	F# 1		1	Hi-Hat Closed					Analog HH Closed 1					Telephone Ring2
43	G 1			Floor Tom H		Room Tom 2	Rock Tom 2	E Tom 2	Analog Tom 2	Jazz Tom 2	Brush Tom 2	Jazz Tom 2		
44	G# 1		1	Hi-Hat Pedal					Analog HH Closed 2					
45	A 1			Low Tom		Room Tom 3	Rock Tom 3	E Tom 3	Analog Tom 3	Jazz Tom 3	Brush Tom 3	Jazz Tom 3		
46	A# 1		1	Hi-Hat Open					Analog HH Open					
47	B 1			Mid Tom L		Room Tom 4	Rock Tom 4	E Tom 4	Analog Tom 4	Jazz Tom 4	Brush Tom 4	Jazz Tom 4		
48	C 2			Mid Tom H		Room Tom 5	Rock Tom 5	E Tom 5	Analog Tom 5	Jazz Tom 5	Brush Tom 5	Jazz Tom 5		
49	C# 2			Crash Cymbal 1					Analog Cymbal			Hand Cym.Open L		
50	D 2			High Tom		Room Tom 6	Rock Tom 6	E Tom 6	Analog Tom 6	Jazz Tom 6	Brush Tom 6	Jazz Tom 6		
51	D# 2			Ride Cymbal 1								Hand Cym.Closed L		
52	E 2			Chinese Cymbal									FL.Key Click	Engine Start
53	F 2			Ride Cymbal Cup										Tire Screech
54	F# 2			Tambourine										Car Passing
55	G 2			Splash Cymbal										Crash
56	G# 2			Cowbell					Analog Cowbell					Siren
57	A 2			Crash Cymbal 2								Hand Cym.Open H		Train
58	A# 2			Vibraslap										Jetplane
59	B 2			Ride Cymbal 2								Hand Cym.Closed H		Starship

60	C	3			Bongo H										Burst Noise
61	C#	3			Bongo L										Coaster
62	D	3			Conga H Mute					Analog Conga H					SbMarine
63	D#	3			Conga H Open					Analog Conga M					
64	E	3			Conga L					Analog Conga L					
65	F	3			Timbale H										
66	F#	3			Timbale L										
67	G	3			Agogo H										
68	G#	3			Agogo L									Rain	Laughing
69	A	3			Cabasa									Thunder	Screaming
70	A#	3			Maracas					Analog Maracas				Wind	Punch
71	B	3	O		Samba Whistle H									Stream	Heartbeat
72	C	4	O		Samba Whistle L									Bubble	Footsteps
73	C#	4			Guiro Short									Feed	
74	D	4	O		Guiro Long										
75	D#	4			Claves					Analog Claves					
76	E	4			Wood Block H										
77	F	4			Wood Block L										
78	F#	4			Cuica Mute				Scratch Push	Scratch Push					
79	G	4			Cuica Open				Scratch Pull	Scratch Pull					
80	G#	4		2	Triangle Mute										
81	A	4		2	Triangle Open										
82	A#	4			Shaker										
83	B	4			Jingle Bell										
84	C	5			Bell Tree									Dog	Machine Gun
85	C#	5												Horse Gallop	Laser Gun
86	D	5												Bird 2	Explosion
87	D#	5													FireWork
88	E	5													
89	F	5													
90	F#	5												Ghost	
91	G	5												Maou	

: Same as Standard Kit

: No Sound

** Drum and percussion sounds assigned to the same Alternate Assign numbered group cannot be sounded simultaneously. For example, the Hi-Hat Open sound (group 1) and Hi-Hat Closed sound (also group 1) cannot be sounded at the same time.*

TG300B Drum Voice List

Program #			1	9	17	25	26	33	41	49	57	128
Note#	Note	Alternate assign	Standard Kit	Room Kit	Power Kit	Electro Kit	Analog Kit	Jazz Kit	Brush Kit	Orchestra Kit	SFX Set	C/M Kit
25	C# 0		Snare Roll									
26	D 0		Finger Snap									
27	D# 0		Hi Q							Hi-Hat Closed		
28	E 0		Whip Slap							Hi-Hat Pedal		
29	F 0	7	Scratch Push							Hi-Hat Open		
30	F# 0	7	Scratch Pull							Ride Cymbal 1		
31	G 0		Sticks									
32	G# 0		Click Noise									
33	A 0		Metronome Click									
34	A# 0		Metronome Bell									
35	B 0		Bass Drum M							BD Jazz		
36	C 1		Bass Drum H		BD Power	BD Electronic	BD Analog H	BD Jazz	BD Soft	Gran Cassa		
37	C# 1		Side Stick				Analog Side Stick					
38	D 1		Snare M		SD Power	SD Electronic	Analog Snare L		Brush Tap	Concert SD		
39	D# 1		Hand Clap						Brush Slap	Castanet	High-Q	
40	E 1		Snare H			SD Power			Brush Swirl	Concert SD	Slap	SD Electro
41	F 1		Floor Tom L	Room Tom 1	Room Tom 1	E Tom 1	Analog Tom 1	Jazz Tom 1	Jazz Tom 1	Timpani F	Scratch Push	
42	F# 1	1	Hi-Hat Closed				Analog HH Closed 1			Timpani F#	Scratch Pull	
43	G 1		Floor Tom H	Room Tom 2	Room Tom 2	E Tom 2	Analog Tom 2	Jazz Tom 2	Jazz Tom 2	Timpani G	Sticks	
44	G# 1	1	Hi-Hat Pedal				Analog HH Closed 2			Timpani G#	Square Click	Hi-Hat Open 1
45	A 1		Low Tom	Room Tom 3	Room Tom 3	E Tom 3	Analog Tom 3	Jazz Tom 3	Jazz Tom 3	Timpani A	Metronome Click	
46	A# 1	1	Hi-Hat Open				Analog HH Open			Timpani A#	Metronome Bell	Hi-Hat Open 2
47	B 1		Mid Tom L	Room Tom 4	Room Tom 4	E Tom 4	Analog Tom 4	Jazz Tom 4	Jazz Tom 4	Timpani B	Guitar Fret Noise	
48	C 2		Mid Tom H	Room Tom 5	Room Tom 5	E Tom 5	Analog Tom 5	Jazz Tom 5	Jazz Tom 5	Timpani C	Guitar Cutting Down	
49	C# 2		Crash Cymbal 1				Analog Cymbal			Timpani C#	Guitar Cutting Up	
50	D 2		High Tom	Room Tom 6	Room Tom 6	E Tom 6	Analog Tom 6	Jazz Tom 6	Jazz Tom 6	Timpani D	Ac Bass Slap	
51	D# 2		Ride Cymbal 1							Timpani D#	FL.Key Click	
52	E 2		Chinese Cymbal			Reverse Cymbal				Timpani E	Laughing	
53	F 2		Ride Cymbal Cup							Timpani F	Screaming	
54	F# 2		Tambourine								Punch	
55	G 2		Splash Cymbal								Heartbeat	
56	G# 2		Cowbell				Analog Cowbell				Footsteps 1	
57	A 2		Crash Cymbal 2							Hand Cym.1	Footsteps 2	
58	A# 2		Vibraslap								Applause	
59	B 2		Ride Cymbal 2							Hand Cym.2	Door Creaking	
60	C 3		Bongo H								Door Slam	
61	C# 3		Bongo L								Scratch	
62	D 3		Conga H Mute				Analog Conga H				Windchime	
63	D# 3		Conga H Open				Analog Conga M				Engine Start	
64	E 3		Conga L				Analog Conga L				Tire Screech	
65	F 3		Timbale H								Car Passing	
66	F# 3		Timbale L								Crash	
67	G 3		Agogo H								Siren	
68	G# 3		Agogo L								Train	
69	A 3		Cabasa								Jetplane	
70	A# 3		Maracas				Analog Maracas				Helicopter	
71	B 3	2	Samba Whistle H								Starship	
72	C 4	2	Samba Whistle L								Gunshot	

73	C#	4	3	Guiro Short								Machine Gun	Vibraslap
74	D	4	3	Guiro Long								Laser Gun	
75	D#	4		Claves				Analog Claves				Explosion	
76	E	4		Wood Block H								Dog	Laughing
77	F	4		Wood Block L								Horse Gallop	Screaming
78	F#	4	4	Cuica Mute								Bird Tweet	Punch
79	G	4	4	Cuica Open								Rain	Heartbeat
80	G#	4	5	Triangle Mute								Thunder	Footsteps 1
81	A	4	5	Triangle Open								Wind	Footsteps 2
82	A#	4		Shaker								Seashore	Applause
83	B	4		Jingle Bell								Stream	Door Creaking
84	C	5		Bell Tree								Bubble	Door Slam
85	C#	5		Castanet									Scratch
86	D	5	6	Surdo Mute									Windchime
87	D#	5	6	Surdo Open									Engine Start
88	E	5									Applause		Tire Screech
89	F	5											Car Passing
90	F#	5											Crash
91	G	5											Siren
92	G#	5											Train
93	A	5											Jetplain
94	A#	5											Helicopter
95	B	5											Starship
96	C	6											Gunshot
97	C#	6											Machine Gun
98	D	6											Laser Gun
99	D#	6											Explosion
100	E	6											Dog
101	F	6											Horse Gallop
102	F#	6											Bird Tweet
103	G	6											Rain
104	G#	6											Thunder
105	A	6											Wind
106	A#	6											Seashore
107	B	6											Stream
108	C	7											Bubble

: Same as Standard Kit
: No Sound

***** Some of the C/M Kit instruments in common with the Standard Kit differ from those of the Standard Kit in effect send level or pan settings etc., even though the instrument itself is the same.***

Effect Type List

REVERB

Exclusive MSB	Exclusive LSB	Effect Type	Description
00	00	NO EFFECT	Effect turned off.
01	00	HALL1	Reverb simulating the resonance of a hall.
01	01	HALL2	Reverb simulating the resonance of a hall.
02	00	ROOM1	Reverb simulating the resonance of a room.
02	01	ROOM2	Reverb simulating the resonance of a room.
02	02	ROOM3	Reverb simulating the resonance of a room.
03	00	STAGE1	Reverb appropriate for a solo instrument.
03	01	STAGE2	Reverb appropriate for a solo instrument.
04	00	PLATE	Reverb simulating a metal plate reverb unit.
10	00	WHITE ROOM	A unique short reverb with a bit of initial delay.
11	00	TUNNEL	Simulation of a tunnel space expanding to left and right.
13	00	BASEMENT	A bit of initial delay followed by reverb with a unique resonance.

CHORUS

Exclusive MSB	Exclusive LSB	Effect Type	Description
00	00	NO EFFECT	NO EFFECT Effect turned off.
41	00	CHORUS1	CHORUS1 Conventional chorus program that adds natural spaciousness.
41	01	CHORUS2	CHORUS2 Conventional chorus program that adds natural spaciousness.
41	02	CHORUS3	CHORUS3 Conventional chorus program that adds natural spaciousness.
41	08	CHORUS4	CHORUS4 Chorus with stereo input. The pan setting specified for the Part will also apply to the effect sound.
42	00	CELESTE1	CELESTE1 A 3-phase LFO adds modulation and spaciousness to the sound.
42	01	CELESTE2	CELESTE2 A 3-phase LFO adds modulation and spaciousness to the sound.
42	02	CELESTE3	CELESTE3 A 3-phase LFO adds modulation and spaciousness to the sound.
42	08	CELESTE4	CELESTE4 Celeste with stereo input. The pan setting specified for the Part will also apply to the effect sound.
43	00	FLANGER1	FLANGER1 Adds a jet-airplane effect to the sound.
43	01	FLANGER2	FLANGER2 Adds a jet-airplane effect to the sound.
43	08	FLANGER3	FLANGER3 Adds a jet-airplane effect to the sound.

VARIATION

Exclusive MSB	Exclusive LSB	Effect Type	Description
00	00	NO EFFECT	Effect turned off.
01	00	HALL1	Reverb simulating the resonance of a hall.
01	01	HALL2	Reverb simulating the resonance of a hall.
02	00	ROOM1	Reverb simulating the resonance of a room.
02	01	ROOM2	Reverb simulating the resonance of a room.
02	02	ROOM3	Reverb simulating the resonance of a room.
03	00	STAGE1	Reverb appropriate for a solo instrument.
03	01	STAGE2	Reverb appropriate for a solo instrument.
04	00	PLATE	Reverb simulating a metal plate reverb unit.
05	00	DELAY L, C, R	A program that creates three delay sounds; L, R, and C (center).
06	00	DELAY L, R	A program that creates two delay sounds; L and R. Two feedback delays are provided.
07	00	ECHO	Two delays (L and R) and independent feedback delays for L and R.
08	00	CROSS DELAY	A program that crosses the feedback of two delays.
09	00	EARLY REF1	An effect that produces only the early reflection component of reverb.
09	01	EARLY REF2	An effect that produces only the early reflection component of reverb.
0A	00	GATE REVERB	A simulation of gated reverb.
0B	00	REVERSE GATE	A program that simulates gated reverb played backwards.
14	00	KARAOKE 1	A delay with feedback of the same types as used for karaoke reverb.
14	01	KARAOKE 2	A delay with feedback of the same types as used for karaoke reverb.
14	02	KARAOKE 3	A delay with feedback of the same types as used for karaoke reverb.
41	00	CHORUS1	Conventional chorus program that adds natural spaciousness.
41	01	CHORUS2	Conventional chorus program that adds natural spaciousness.
41	02	CHORUS3	Conventional chorus program that adds natural spaciousness.
41	08	CHORUS4	Chorus with stereo input.
42	00	CELESTE1	A 3-phase LFO adds modulation and spaciousness to the sound.
42	01	CELESTE2	A 3-phase LFO adds modulation and spaciousness to the sound.
42	02	CELESTE3	A 3-phase LFO adds modulation and spaciousness to the sound.
42	08	CELESTE4	Celeste with stereo input.
43	00	FLANGER1	Adds a jet-airplane effect to the sound.
43	01	FLANGER2	Adds a jet-airplane effect to the sound.
43	08	FLANGER3	Adds a jet-airplane effect to the sound.
44	00	SYMPHONIC	A multi-phase version of CELESTE.
45	00	ROTARY SPEAKER	A simulation of a rotary speaker. You can use AC1 (assignable controller) etc. to control the speed of rotation.
46	00	TREMOLO	An effect that cyclically modulates the volume.
47	00	AUTO PAN	A program that cyclically moves that sound image to left and right, front and back.
48	00	PHASER1	Cyclically changes the phase to add modulation to the sound.
48	08	PHASER2	Phaser with stereo input.
49	00	DISTORTION	Adds a sharp-edged distortion to the sound.
4A	00	OVER DRIVE	Adds mild distortion to the sound.
4B	00	AMP SIMULATOR	A simulation of a guitar amp.
4C	00	3BAND EQ(MONO)	A mono EQ with adjustable LOW, MID, and HIGH equalizing.
4D	00	2BAND EQ(STEREO)	A stereo EQ with adjustable LOW and HIGH. Ideal for drum Parts.
4E	00	AUTO WAH(LFO)	Cyclically modulates the center frequency of a wah filter. With an AC1 etc. this can function as a pedal wah.
50	00	PITCH CHANGE	This program changes the pitch of the input signal.
40	00	THRU	Bypass without applying an effect.

* MSB, LSB is represented in hexadecimal. * LSB = 0 is the basic effect type.

Effect Parameter List

HALL1,2, ROOM1,2,3 ,STAGE1,2, PLATE

No. *	Parameter	Range	Value	→ P54**	Control
1	Reverb Time	0.3 ~ 30.0s	0-69	table#4	
2	Diffusion	0 ~ 10	0-10		
3	Initial Delay	0 ~ 63	0-63	table#5	
4	HPF Cutoff	Thru ~ 8.0kHz	0-52	table#3	
5	LPF Cutoff	1.0k ~ Thru	34-60	table#3	
6					
7					
8					
9					
10	Dry/Wet	D63>W ~ D=W ~ D<W63	1-127		●
11	Rev Delay	0 ~ 63	0-63	table#5	
12	Density	0 ~ 3	0-3		
13	Er/ Rev Balance	E63> R ~ E=R ~ E<R63	1-127		
14					
15	Feedback Level	-63 ~ +63	1-127		
16					

ECHO

No. *	Parameter	Range	Value	→ P54**	Control
1	Lch Delay1	0.1 ~ 355.0ms	1-3550		
2	Lch Feedback Level	-63 ~ +63	1-127		
3	Rch Delay1	0.1 ~ 355.0ms	1-3550		
4	Rch Feedback Level	-63 ~ +63	1-127		
5	High Damp	0.1 ~ 1.0	1-10		
6	Lch Delay2	0.1 ~ 355.0ms	1-3550		
7	Rch Delay2	0.1 ~ 355.0ms	1-3550		
8	Delay2 Level	0 ~ 127	0-127		
9					
10	Dry/Wet	D63>W ~ D=W ~ D<W63	1-127		●
11					
12					
13	EQ Low Frequency	50Hz ~ 2.0kHz	8-40	table#3	
14	EQ Low Gain	-12 ~ +12dB	52-76		
15	EQ High Frequency	500Hz ~ 16.0kHz	28-58	table#3	
16	EQ High Gain	-12 ~ +12dB	52-76		

WHITE ROOM ,TUNNEL, BASEMENT

No. *	Parameter	Range	Value	→ P54**	Control
1	Reverb Time	0.3 ~ 30.0s	0-69	table#4	
2	Diffusion	0 ~ 10	0-10		
3	Initial Delay	0 ~ 63	0-63	table#5	
4	HPF Cutoff	Thru ~ 8.0kHz	0-52	table#3	
5	LPF Cutoff	1.0k ~ Thru	34-60	table#3	
6	Width	0.5 ~ 10.2m	0-37	table#8	
7	Height	0.5 ~ 20.2m	0-73	table#8	
8	Depth	0.5 ~ 30.2m	0-104	table#8	
9	Wall Vary	0 ~ 30	0-30		
10	Dry/Wet	D63>W ~ D=W ~ D<W63	1-127		●
11	Rev Delay	0 ~ 63	0-63	table#5	
12	Density	0 ~ 3	0-3		
13	Er/ Rev Balance	E63> R ~ E=R ~ E<R63	1-127		
14					
15	Feedback Level	-63 ~ +63	1-127		
16					

CROSS DELAY

No. *	Parameter	Range	Value	→ P54**	Control
1	L->R Delay	0.1 ~ 355.0ms	1-3550		
2	R->L Delay	0.1 ~ 355.0ms	1-3550		
3	Feedback Level	-63 ~ +63	1-127		
4	Input Select	L,R,L&R	0-2		
5	High Damp	0.1 ~ 1.0	1-10		
6					
7					
8					
9					
10	Dry/Wet	D63>W ~ D=W ~ D<W63	1-127		●
11					
12					
13	EQ Low Frequency	50Hz ~ 2.0kHz	8-40	table#3	
14	EQ Low Gain	-12 ~ +12dB	52-76		
15	EQ High Frequency	500Hz ~ 16.0kHz	28-58	table#3	
16	EQ High Gain	-12 ~ +12dB	52-76		

DELAY L,C,R

No. *	Parameter	Range	Value	→ P54**	Control
1	Lch Delay	0.1 ~ 715.0ms	1-7150		
2	Rch Delay	0.1 ~ 715.0ms	1-7150		
3	Cch Delay	0.1 ~ 715.0ms	1-7150		
4	Feedback Delay	0.1 ~ 715.0ms	1-7150		
5	Feedback Level	-63 ~ +63	1-127		
6	Cch Level	0 ~ 127	0-127		
7	High Damp	0.1 ~ 1.0	1-10		
8					
9					
10	Dry/Wet	D63>W ~ D=W ~ D<W63	1-127		●
11					
12					
13	EQ Low Frequency	50Hz ~ 2.0kHz	8-40	table#3	
14	EQ Low Gain	-12 ~ +12dB	52-76		
15	EQ High Frequency	500Hz ~ 16.0kHz	28-58	table#3	
16	EQ High Gain	-12 ~ +12dB	52-76		

EARLY REF1,2

No. *	Parameter	Range	Value	→ P54**	Control
1	Type	S-H, L-H, Rdm, Rvs, Plt, Spr	0-5		
2	Room Size	0.1 ~ 7.0	0-44	table#6	
3	Diffusion	0 ~ 10	0-10		
4	Initial Delay	0 ~ 63	0-63	table#5	
5	Feedback Level	-63 ~ +63	1-127		
6	HPF Cutoff	Thru ~ 8.0kHz	0-52		
7	LPF Cutoff	1.0k ~ Thru	34-60		
8					
9					
10	Dry/Wet	D63>W ~ D=W ~ D<W63	1-127		●
11	Liveness	0 ~ 10	0-10		
12	Density	0 ~ 3	0-3		
13	High Damp	0.1 ~ 1.0	1-10		
14					
15					
16					

DELAY L,R

No. *	Parameter	Range	Value	→ P54**	Control
1	Lch Delay	0.1 ~ 715.0ms	1-7150		
2	Rch Delay	0.1 ~ 715.0ms	1-7150		
3	Feedback Delay 1	0.1 ~ 715.0ms	1-7150		
4	Feedback Delay 2	0.1 ~ 715.0ms	1-7150		
5	Feedback Level	-63 ~ +63	1-127		
6	High Damp	0.1 ~ 1.0	1-10		
7					
8					
9					
10	Dry/Wet	D63>W ~ D=W ~ D<W63	1-127		●
11					
12					
13	EQ Low Frequency	50Hz ~ 2.0kHz	8-40	table#3	
14	EQ Low Gain	-12 ~ +12dB	52-76		
15	EQ High Frequency	500Hz ~ 16.0kHz	28-58	table#3	
16	EQ High Gain	-12 ~ +12dB	52-76		

GATE REVERB,REVERSE GATE

No. *	Parameter	Range	Value	→ P54**	Control
1	Type	TypeA,TypeB	0-1		
2	Room Size	0.1 ~ 7.0	0-44	table#6	
3	Diffusion	0 ~ 10	0-10		
4	Initial Delay	0 ~ 63	0-63	table#5	
5	Feedback Level	-63 ~ +63	1-127		
6	HPF Cutoff	Thru ~ 8.0kHz	0-52		
7	LPF Cutoff	1.0k ~ Thru	34-60		
8					
9					
10	Dry/Wet	D63>W ~ D=W ~ D<W63	1-127		●
11	Liveness	0 ~ 10	0-10		
12	Density	0 ~ 3	0-3		
13	High Damp	0.1 ~ 1.0	1-10		
14					
15					
16					

- ● : Can be controlled by AC1 (Assignable Controller 1)
- No. * : These numbers correspond to the Parameter Suffix numbers in <Table 1 - 3> (page 33)
- ÆP54** : Refer to “Effect Data Assign Table”

Effect Parameter List

KARAOKE1,2,3

No. *	Parameter	Range	Value	→ P54**	Control
1	Delay Time	0 ~ 127	0-127	table#7	
2	Feedback Level	-63 ~ +63	1-127		
3	HPF Cutoff	Thru ~ 8.0kHz	0-52		
4	LPF Cutoff	1.0k ~ Thru	34-60		
5					
6					
7					
8					
9					
10	Dry/Wet	D63>W ~ D=W ~ D<W63	1-127		●
11					
12					
13					
14					
15					
16					

ROTARY SPEAKER

No. *	Parameter	Range	Value	→ P54**	Control
1	LFO Frequency	0.00 ~ 39.7Hz	0-127	table#1	●
2	LFO Depth	0 ~ 127	0-127		
3					
4					
5					
6	EQ Low Frequency	50Hz ~ 2.0kHz	8-40	table#3	
7	EQ Low Gain	-12 ~ +12dB	52-76		
8	EQ High Frequency	500Hz ~ 16.0kHz	28-58	table#3	
9	EQ High Gain	-12 ~ +12dB	52-76		
10	Dry/Wet	D63>W ~ D=W ~ D<W63	1-127		
11					
12					
13					
14					
15					
16					

CHORUS1,2,3,4, CELESTE1,2,3,4

No. *	Parameter	Range	Value	→ P54**	Control
1	LFO Frequency	0.00 ~ 39.7Hz	0-127	table#1	
2	LFO PM Depth	0 ~ 127	0-127		
3	Feedback Level	-63 ~ +63	1-127		
4	Delay Offset	0 ~ 127	0-127	table#2	
5					
6	EQ Low Frequency	50Hz ~ 2.0kHz	8-40	table#3	
7	EQ Low Gain	-12 ~ +12dB	52-76		
8	EQ High Frequency	500Hz ~ 16.0kHz	28-58	table#3	
9	EQ High Gain	-12 ~ +12dB	52-76		
10	Dry/Wet	D63>W ~ D=W ~ D<W63	1-127		●
11					
12					
13					
14					
15	Input Mode	mono/stereo	0-1		
16					

TREMOLO

No. *	Parameter	Range	Value	→ P54**	Control
1	LFO Frequency	0.00 ~ 39.7Hz	0-127	table#1	●
2	AM Depth	0 ~ 127	0-127		
3	PM Depth	0 ~ 127	0-127		
4					
5					
6	EQ Low Frequency	50Hz ~ 2.0kHz	8-40	table#3	
7	EQ Low Gain	-12 ~ +12dB	52-76		
8	EQ High Frequency	500Hz ~ 16.0kHz	28-58	table#3	
9	EQ High Gain	-12 ~ +12dB	52-76		
10					
11					
12					
13					
14	LFO Phase Difference	-180 ~ +180deg	4-124	resolution=3deg.	
15	Input Mode	mono/stereo	0-1		
16					

FLANGER1,2,3

No. *	Parameter	Range	Value	→ P54**	Control
1	LFO Frequency	0.00 ~ 39.7Hz	0-127	table#1	
2	LFO Depth	0 ~ 127	0-127		
3	Feedback Level	-63 ~ +63	1-127		
4	Delay Offset	0 ~ 63	0-63	table#2	
5					
6	EQ Low Frequency	50Hz ~ 2.0kHz	8-40	table#3	
7	EQ Low Gain	-12 ~ +12dB	52-76		
8	EQ High Frequency	500Hz ~ 16.0kHz	28-58	table#3	
9	EQ High Gain	-12 ~ +12dB	52-76		
10	Dry/Wet	D63>W ~ D=W ~ D<W63	1-127		●
11					
12					
13					
14	LFO Phase Difference	-180 ~ +180deg	4-124	resolution=3deg.	
15					
16					

AUTO PAN

No. *	Parameter	Range	Value	→ P54**	Control
1	LFO Frequency	0.00 ~ 39.7Hz	0-127	table#1	●
2	L/R Depth	0 ~ 127	0-127		
3	F/R Depth	0 ~ 127	0-127		
4	PAN Direction	L<->R,L->R,L<-R,Lturn,Rturn,L/R	0-5		
5					
6	EQ Low Frequency	50Hz ~ 2.0kHz	8-40	table#3	
7	EQ Low Gain	-12 ~ +12dB	52-76		
8	EQ High Frequency	500Hz ~ 16.0kHz	28-58	table#3	
9	EQ High Gain	-12 ~ +12dB	52-76		
10					
11					
12					
13					
14					
15					
16					

SYMPHONIC

No. *	Parameter	Range	Value	→ P54**	Control
1	LFO Frequency	0.00 ~ 39.7Hz	0-127	table#1	
2	LFO Depth	0 ~ 127	0-127		
3	Delay Offset	0 ~ 127	0-127	table#2	
4					
5					
6	EQ Low Frequency	50Hz ~ 2.0kHz	8-40	table#3	
7	EQ Low Gain	-12 ~ +12dB	52-76		
8	EQ High Frequency	500Hz ~ 16.0kHz	28-58	table#3	
9	EQ High Gain	-12 ~ +12dB	52-76		
10	Dry/Wet	D63>W ~ D=W ~ D<W63	1-127		●
11					
12					
13					
14					
15					
16					

PHASER1,2

No. *	Parameter	Range	Value	→ P54**	Control
1	LFO Frequency	0.00 ~ 39.7Hz	0-127	table#1	
2	LFO Depth	0 ~ 127	0-127		
3	Phase Shift Offset	0 ~ 127	0-127		
4	Feedback Level	-63 ~ +63	1-127		
5					
6	EQ Low Frequency	50Hz ~ 2.0kHz	8-40	table#3	
7	EQ Low Gain	-12 ~ +12dB	52-76		
8	EQ High Frequency	500Hz ~ 16.0kHz	28-58	table#3	
9	EQ High Gain	-12 ~ +12dB	52-76		
10	Dry/Wet	D63>W ~ D=W ~ D<W63	1-127		●
11	Stage	6 ~ 10(phaser1) / 3 ~ 5(phaser2)	3-10		
12	Diffusion	Mono/Stereo	0-1		
13	LFO Phase Difference	-180 ~ +180deg.	4-124	Phaser2 only	
14					
15					
16					

- ● : Can be controlled by AC1 (Assignable Controller 1)
- No. * : These numbers correspond to the Parameter Suffix numbers in <Table 1 - 3> (page 33)
- ÆP54** : Refer to “Effect Data Assign Table”

DISTORTION,OVERDRIVE

No. *	Parameter	Range	Value	→ P54**	Control
1	Drive	0 ~ 127	0-127		●
2	EQ Low Frequency	50Hz ~ 2.0kHz	8-40	table#3	
3	EQ Low Gain	-12 ~ +12dB	52-76		
4	LPF Cutoff	1.0k ~ Thru	34-60	table#3	
5	Output Level	0 ~ 127	0-127		
6					
7	EQ Mid Frequency	500Hz ~ 10.0kHz	28-54	table#3	
8	EQ Mid Gain	-12 ~ +12dB	52-76		
9	EQ Mid Width	1.0 ~ 12.0	10-120		
10	Dry/Wet	D63>W ~ D=W ~ D<W63	1-127		
11	Edge(Clip Curve)	0 ~ 127	0-127	mild ~ sharp	
12					
13					
14					
15					
16					

AUTO WAH

No. *	Parameter	Range	Value	→ P54**	Control
1	LFO Frequency	0.00 ~ 39.7Hz	0-127	table#1	
2	LFO Depth	0 ~ 127	0-127		
3	Cutoff Frequency Offset	0 ~ 127	0-127		●
4	Resonance	1.0 ~ 12.0	10-120		
5					
6	EQ Low Frequency	50Hz ~ 2.0kHz	8-40	table#3	
7	EQ Low Gain	-12 ~ +12dB	52-76		
8	EQ High Frequency	500Hz ~ 16.0kHz	28-58	table#3	
9	EQ High Gain	-12 ~ +12dB	52-76		
10	Dry/Wet	D63>W ~ D=W ~ D<W63	1-127		
11					
12					
13					
14					
15					
16					

GUITAR AMP SIMULATOR

No. *	Parameter	Range	Value	→ P54**	Control
1	Drive	0 ~ 127	0-127		●
2	AMP Type	Off,Stack,Combo,Tube	0-3		
3	LPF Cutoff	1.0k ~ Thru	34-60	table#3	
4	Output Level	0 ~ 127	0-127		
5					
6					
7					
8					
9					
10	Dry/Wet	D63>W ~ D=W ~ D<W63	1-127		
11	Edge(Clip Curve)	0 ~ 127	0-127	mild ~ sharp	
12					
13					
14					
15					
16					

PITCH CHANGE

No. *	Parameter	Range	Value	→ P54**	Control
1	Pitch	-24 ~ +24	40-88		
2	Initial Delay	0 ~ 127	0-127		
3	Fine	-50 ~ +50	14-114		
4					
5					
6	EQ Low Frequency	50Hz ~ 2.0kHz	8-40	table#3	
7	EQ Low Gain	-12 ~ +12dB	52-76		
8	EQ High Frequency	500Hz ~ 16.0kHz	28-58	table#3	
9	EQ High Gain	-12 ~ +12dB	52-76		
10	Dry/Wet	D63>W ~ D=W ~ D<W63	1-127		●
11					
12					
13					
14					
15					
16					

3-BAND EQ

No. *	Parameter	Range	Value	→ P54**	Control
1	EQ Low Gain	-12 ~ +12dB	52-76		
2	EQ Mid Frequency	500Hz ~ 10.0kHz	28-54	table#3	
3	EQ Mid Gain	-12 ~ +12dB	52-76		
4	EQ Mid Width	1.0 ~ 12.0	10-120		
5	EQ High Gain	-12 ~ +12dB	52-76		
6	EQ Low Frequency	50Hz ~ 2.0kHz	8-40	table#3	
7	EQ High Frequency	500Hz ~ 16.0kHz	28-58	table#3	
8					
9					
10					
11					
12					
13					
14					
15					
16					

2-BAND EQ

No. *	Parameter	Range	Value	→ P54**	Control
1	EQ Low Frequency	50Hz ~ 2.0kHz	8-40	table#3	
2	EQ Low Gain	-12 ~ +12dB	52-76		
3	EQ High Frequency	500Hz ~ 16.0kHz	28-58	table#3	
4	EQ High Gain	-12 ~ +12dB	52-76		
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					

- ● : Can be controlled by AC1 (Assignable Controller 1)
- No. * : These numbers correspond to the Parameter Suffix numbers in <Table 1 - 3> (page 33)
- ÆP54** : Refer to “Effect Data Assign Table”

Effect Data Assign Table

Table#1

LFO Frequency (Hz)

Data	Value	Data	Value	Data	Value
0	0.00	43	1.81	86	5.38
1	0.04	44	1.85	87	5.55
2	0.08	45	1.89	88	5.72
3	0.13	46	1.94	89	6.06
4	0.17	47	1.98	90	6.39
5	0.21	48	2.02	91	6.73
6	0.25	49	2.06	92	7.07
7	0.29	50	2.10	93	7.40
8	0.34	51	2.15	94	7.74
9	0.38	52	2.19	95	8.08
10	0.42	53	2.23	96	8.41
11	0.46	54	2.27	97	8.75
12	0.51	55	2.31	98	9.08
13	0.55	56	2.36	99	9.42
14	0.59	57	2.40	100	9.76
15	0.63	58	2.44	101	10.10
16	0.67	59	2.48	102	10.80
17	0.72	60	2.52	103	11.40
18	0.76	61	2.57	104	12.10
19	0.80	62	2.61	105	12.80
20	0.84	63	2.65	106	13.50
21	0.88	64	2.69	107	14.10
22	0.93	65	2.78	108	14.80
23	0.97	66	2.86	109	15.50
24	1.01	67	2.94	110	16.20
25	1.05	68	3.03	111	16.80
26	1.09	69	3.11	112	17.50
27	1.14	70	3.20	113	18.20
28	1.18	71	3.28	114	19.50
29	1.22	72	3.37	115	20.90
30	1.26	73	3.45	116	22.20
31	1.30	74	3.53	117	23.60
32	1.35	75	3.62	118	24.90
33	1.39	76	3.70	119	26.20
34	1.43	77	3.87	120	27.60
35	1.47	78	4.04	121	28.90
36	1.51	79	4.21	122	30.30
37	1.56	80	4.37	123	31.60
38	1.60	81	4.54	124	33.00
39	1.64	82	4.71	125	34.30
40	1.68	83	4.88	126	37.00
41	1.72	84	5.05	127	39.70
42	1.77	85	5.22		

Table#2

Modulation Delay Offset (ms)

Data	Value	Data	Value	Data	Value
0	0.0	43	4.3	86	8.6
1	0.1	44	4.4	87	8.7
2	0.2	45	4.5	88	8.8
3	0.3	46	4.6	89	8.9
4	0.4	47	4.7	90	9.0
5	0.5	48	4.8	91	9.1
6	0.6	49	4.9	92	9.2
7	0.7	50	5.0	93	9.3
8	0.8	51	5.1	94	9.4
9	0.9	52	5.2	95	9.5
10	1.0	53	5.3	96	9.6
11	1.1	54	5.4	97	9.7
12	1.2	55	5.5	98	9.8
13	1.3	56	5.6	99	9.9
14	1.4	57	5.7	100	10.0
15	1.5	58	5.8	101	11.1
16	1.6	59	5.9	102	12.2
17	1.7	60	6.0	103	13.3
18	1.8	61	6.1	104	14.4
19	1.9	62	6.2	105	15.5
20	2.0	63	6.3	106	17.1
21	2.1	64	6.4	107	18.6
22	2.2	65	6.5	108	20.2
23	2.3	66	6.6	109	21.8
24	2.4	67	6.7	110	23.3
25	2.5	68	6.8	111	24.9
26	2.6	69	6.9	112	26.5
27	2.7	70	7.0	113	28.0
28	2.8	71	7.1	114	29.6
29	2.9	72	7.2	115	31.2
30	3.0	73	7.3	116	32.8
31	3.1	74	7.4	117	34.3
32	3.2	75	7.5	118	35.9
33	3.3	76	7.6	119	37.5
34	3.4	77	7.7	120	39.0
35	3.5	78	7.8	121	40.6
36	3.6	79	7.9	122	42.2
37	3.7	80	8.0	123	43.7
38	3.8	81	8.1	124	45.3
39	3.9	82	8.2	125	46.9
40	4.0	83	8.3	126	48.4
41	4.1	84	8.4	127	50.0
42	4.2	85	8.5		

Table#3

EQ Frequency (Hz)

Data	Value	Data	Value
0	THRU(20)	43	2.8k
1	22	44	3.2k
2	25	45	3.6k
3	28	46	4.0k
4	32	47	4.5k
5	36	48	5.0k
6	40	49	5.6k
7	45	50	6.3k
8	50	51	7.0k
9	56	52	8.0k
10	63	53	9.0k
11	70	54	10.0k
12	80	55	11.0k
13	90	56	12.0k
14	100	57	14.0k
15	110	58	16.0k
16	125	59	18.0k
17	140	60	THRU(20.0k)
18	160		
19	180		
20	200		
21	225		
22	250		
23	280		
24	315		
25	355		
26	400		
27	450		
28	500		
29	560		
30	630		
31	700		
32	800		
33	900		
34	1.0k		
35	1.1k		
36	1.2k		
37	1.4k		
38	1.6k		
39	1.8k		
40	2.0k		
41	2.2k		
42	2.5k		

Table#4

Reverb Time (s)

Data	Value	Data	Value
0	0.3	43	4.6
1	0.4	44	4.7
2	0.5	45	4.8
3	0.6	46	4.9
4	0.7	47	5.0
5	0.8	48	5.5
6	0.9	49	6.0
7	1.0	50	6.5
8	1.1	51	7.0
9	1.2	52	7.5
10	1.3	53	8.0
11	1.4	54	8.5
12	1.5	55	9.0
13	1.6	56	9.5
14	1.7	57	10.0
15	1.8	58	11.0
16	1.9	59	12.0
17	2.0	60	13.0
18	2.1	61	14.0
19	2.2	62	15.0
20	2.3	63	16.0
21	2.4	64	17.0
22	2.5	65	18.0
23	2.6	66	19.0
24	2.7	67	20.0
25	2.8	68	25.0
26	2.9	69	30.0
27	3.0		
28	3.1		
29	3.2		
30	3.3		
31	3.4		
32	3.5		
33	3.6		
34	3.7		
35	3.8		
36	3.9		
37	4.0		
38	4.1		
39	4.2		
40	4.3		
41	4.4		
42	4.5		

Table#5

Delay Time (ms)

Data	Value	Data	Value	Data	Value
0	0.1	43	67.8	86	135.5
1	1.7	44	69.4	87	137.0
2	3.2	45	70.9	88	138.6
3	4.8	46	72.5	89	140.2
4	6.4	47	74.1	90	141.8
5	8.0	48	75.7	91	143.3
6	9.5	49	77.2	92	144.9
7	11.1	50	78.8	93	146.5
8	12.7	51	80.4	94	148.1
9	14.3	52	81.9	95	149.6
10	15.8	53	83.5	96	151.2
11	17.4	54	85.1	97	152.8
12	19.0	55	86.7	98	154.4
13	20.6	56	88.2	99	155.9
14	22.1	57	89.8	100	157.5
15	23.7	58	91.4	101	159.1
16	25.3	59	93.0	102	160.6
17	26.9	60	94.5	103	162.2
18	28.4	61	96.1	104	163.8
19	30.0	62	97.7	105	165.4
20	31.6	63	99.3	106	166.9
21	33.2	64	100.8	107	168.5
22	34.7	65	102.4	108	170.1
23	36.3	66	104.0	109	171.7
24	37.9	67	105.6	110	173.2
25	39.5	68	107.1	111	174.8
26	41.0	69	108.7	112	176.4
27	42.6	70	110.3	113	178.0
28	44.2	71	111.9	114	179.5
29	45.7	72	113.4	115	181.1
30	47.3	73	115.0	116	182.7
31	48.9	74	116.6	117	184.3
32	50.5	75	118.2	118	185.8
33	52.0	76	119.7	119	187.4
34	53.6	77	121.3	120	189.0
35	55.2	78	122.9	121	190.6
36	56.8	79	124.4	122	192.1
37	58.3	80	126.0	123	193.7
38	59.9	81	127.6	124	195.3
39	61.5	82	129.2	125	196.9
40	63.1	83	130.7	126	198.4
41	64.6	84	132.3	127	200.0
42	66.2	85	133.9		

Table#6

Room Size (m)

Data	Value	Data	Value
0	0.1	43	6.8
1	0.3	44	7.0
2	0.4		
3	0.6		
4	0.7		
5	0.9		
6	1.0		
7	1.2		
8	1.4		
9	1.5		
10	1.7		
11	1.8		
12	2.0		
13	2.1		
14	2.3		
15	2.5		
16	2.6		
17	2.8		
18	2.9		
19	3.1		
20	3.2		
21	3.4		
22	3.5		
23	3.7		
24	3.9		
25	4.0		
26	4.2		
27	4.3		
28	4.5		
29	4.6		
30	4.8		
31	5.0		
32	5.1		
33	5.3		
34	5.4		
35	5.6		
36	5.7		
37	5.9		
38	6.1		
39	6.2		
40	6.4		
41	6.5		
42	6.7		

Table#7

Delay Time (ms)

Data	Value	Data	Value	Data	Value
0	0.1	43	135.5	86	270.9
1	3.2	44	138.6	87	274.0
2	6.4	45	141.8	88	277.2
3	9.5	46	144.9	89	280.3
4	12.7	47	148.1	90	283.5
5	15.8	48	151.2	91	286.6
6	19.0	49	154.4	92	289.8
7	22.1	50	157.5	93	292.9
8	25.3	51	160.7	94	296.1
9	28.4	52	163.8	95	299.2
10	31.6	53	167.0	96	302.4
11	34.7	54	170.1	97	305.5
12	37.9	55	173.3	98	308.7
13	41.0	56	176.4	99	311.8
14	44.2	57	179.6	100	315.0
15	47.3	58	182.7	101	318.1
16	50.5	59	185.9	102	321.3
17	53.6	60	189.0	103	324.4
18	56.8	61	192.2	104	327.6
19	59.9	62	195.3	105	330.7
20	63.1	63	198.5	106	333.9
21	66.2	64	201.6	107	337.0
22	69.4	65	204.8	108	340.2
23	72.5	66	207.9	109	343.3
24	75.7	67	211.1	110	346.5
25	78.8	68	214.2	111	349.6
26	82.0	69	217.4	112	352.8
27	85.1	70	220.5	113	355.9
28	88.3	71	223.7	114	359.1
29	91.4	72	226.8	115	362.2
30	94.6	73	230.0	116	365.4
31	97.7	74	233.1	117	368.5
32	100.9	75	236.3	118	371.7
33	104.0	76	239.4	119	374.8
34	107.2	77	242.6	120	378.0
35	110.3	78	245.7	121	381.1
36	113.5	79	248.9	122	384.3
37	116.6	80	252.0	123	387.4
38	119.8	81	255.2	124	390.6
39	122.9	82	258.3	125	393.7
40	126.1	83	261.5	126	396.9
41	129.2	84	264.6	127	400.0
42	132.4	85	267.7		

Table#8

Reverb Width; Depth; Height (m)

Data	Value	Data	Value	Data	Value
0	0.5	43	11.8	86	24.2
1	0.8	44	12.1	87	24.5
2	1.0	45	12.3	88	24.9
3	1.3	46	12.6	89	25.2
4	1.5	47	12.9	90	25.5
5	1.8	48	13.1	91	25.8
6	2.0	49	13.4	92	26.1
7	2.3	50	13.7	93	26.5
8	2.6	51	14.0	94	26.8
9	2.8	52	14.2	95	27.1
10	3.1	53	14.5	96	27.5
11	3.3	54	14.8	97	27.8
12	3.6	55	15.1	98	28.1
13	3.9	56	15.4	99	28.5
14	4.1	57	15.6	100	28.8
15	4.4	58	15.9	101	29.2
16	4.6	59	16.2	102	29.5
17	4.9	60	16.5	103	29.9
18	5.2	61	16.8	104	30.2
19	5.4	62	17.1		
20	5.7	63	17.3		
21	5.9	64	17.6		
22	6.2	65	17.9		
23	6.5	66	18.2		
24	6.7	67	18.5		
25	7.0	68	18.8		
26	7.2	69	19.1		
27	7.5	70	19.4		
28	7.8	71	19.7		
29	8.0	72	20.0		
30	8.3	73	20.2		
31	8.6	74	20.5		
32	8.8	75	20.8		
33	9.1	76	21.1		
34	9.4	77	21.4		
35	9.6	78	21.7		
36	9.9	79	22.0		
37	10.2	80	22.4		
38	10.4	81	22.7		
39	10.7	82	23.0		
40	11.0	83	23.3		
41	11.2	84	23.6		
42	11.5	85	23.9		

Specifications

Tone Generation Method		AWM2 (Advanced Wave Memory 2)
Performance Modes		XG mode, TG300B mode
Maximum Simultaneous Polyphony		32-note (last note priority; 30-note polyphony when A/D INPUT is used)
Multi-timbral Capacity		16-Part (on 16 MIDI channels; with Element Reserve priority for later notes and Dynamic Voice Allocation)
Voices	Normal Voices	Total : 676 XG mode : 480 TG300B mode : 579
	Drum Voices (percussion sets)	Total : 21 XG mode : 11 TG300B mode : 10
A/D Input		Input jacks : 2 A/D resolution : 16 bit Channel : 1 Input gain : Mic/Line (changed upon reception of appropriate MIDI System Exclusive messages) Input volume controls : 2 independent A/D INPUT VOLUME sliders
Effects		Reverb (11 types), Chorus (11 types), Variation (43 types); can be applied to A/D Input sources
Controls and Indicators		POWER LED; A/D INPUT VOLUME sliders; VOLUME slider; HOST SELECT switch; POWER ON/OFF switch
Jacks and Terminals		LINE OUT/PHONES jack; DC IN jack; TO HOST terminal; MIDI OUT/IN terminals; A/D INPUT 1, 2 jacks
Power Supply		Yamaha PA-3B, PA-1207, or equivalent AC Adaptor (The recommended power adaptor may vary, depending on your location. Please consult your nearest Yamaha dealer for details.) Six 1.5 V AA size (SUM-3, R-6, or equivalent) batteries
Dimensions		188 x 104 x 35 mm (7-3/8” x 4-1/8” x 1-3/8”)
Weight		300 g (11 oz.; without batteries)
Included Accessories		Owner’s Manual

* Specifications subject to change without notice.

Troubleshooting

Even though the MU10 is exceptionally easy to use, it may occasionally not function as you expect it to. If that happens, check the possible problems and solutions below before assuming that the instrument is faulty.

Problem	Possible Cause and Solution
No power.	If you are using an AC adaptor, check that the adaptor is properly plugged into both the AC outlet and the MU10. (See page 12.) If you are using batteries, check that a fresh set of batteries is properly installed in the battery compartment. (See page 13.)
No sound from the A/D INPUTs.	**Check that:** • The input sources are properly connected to the A/D INPUT jacks. • The A/D INPUT VOLUME sliders and the side panel VOLUME slider are set to appropriate levels. • The LINE OUT/PHONES jack is properly connected to your audio equipment or headphones.
No sound when playing the MU10 from a computer, sequencer or external keyboard.	**Check that:** • The LINE OUT/PHONES jack is properly connected to your audio equipment or headphones. • The side panel VOLUME slider is set to an appropriate level. • All MIDI connections have been properly made, making sure that the MIDI OUT of the external device is connected to the MIDI IN of the MU10. (See page 16.) Or, if you are using the TO HOST terminal with a computer, make sure that the computer is properly connected to the terminal and that the HOST SELECT switch is properly set for your particular computer. (See page 14.) • The incoming MIDI data is appropriate. For example, MIDI Volume or Expression messages with a value of 0 will result in no sound for the correwsponding Part. • You have turned on the connected MIDI instrument or computer **before** turning on the MU10. If you haven’t, simply turning the MU10 off and back on again may solve the problem.

Problem	Possible Cause and Solution
Notes are cut off or omitted.	The maximum polyphony of the MU10 may be exceeded. The MU10 can play no more than 32 notes at once; when the A/D INPUTs are used, this is reduced to 30 (see page 18).
The POWER lamp flashes, even though MIDI messages are not being received.	When the battery power runs too low to properly operate the MU10, the POWER lamp will flash slowly. Replace all batteries with a complete set of six new batteries of the same type. (See page 13.)

YAMAHA [Tone Generator] Date:05-APR-1996
Model MU10 MIDI Implementation Chart Version : 1.0

Function ...		Transmitted	Recognized	Remarks
Basic	Default	x	1 - 16	
Channel	Changed	x	1 - 16	
	Default	x	3	
Mode	Messages	x	3,4(m = 1) *2	
	altered	**************	x	
Note		x	0 - 127	
Number :	True voice	**************	0 - 127	
Velocity	Note ON	x	o 9nH,v=1-127	
	Note OFF	x	x	
After	Key's	x	o *1	
Touch	Ch's	x	o *1	
Pitch Bender		x	o 0-24 semi *1	
	0,32	x	o *1	Bank Select
	1,5,7,10,11	x	o *1	
	6,38	x	o *1	Data Entry
	64-67	x	o *1	
Control	71-74	x	o *1	Sound Controller
	84	x	o *1	Portamento Cntrl
Change	91,93,94	x	o *1	Effect Depth
	96-97	x	o *1	RPN Inc,Dec

98-99	x	o *1	NRPN LSB,MSB
100-101	x	o *1	RPN LSB,MSB
120	x	o	All Sound Off
121	x	o	Reset All Cntrls
Prog Change	x	o 0 - 127	
Prog Change : True #	************		
System Exclusive	x	o	
common : Song Pos.	x	x	
common : Song Sel.	x	x	
common : Tune	x	x	
System Real Time : Clock	x	x	
System Real Time : Commands	x	x	
Aux Messages : Local ON/OFF	x	x	
Aux Messages : All Notes OFF	x	o(123-127)	
Aux Messages : Active Sense	x	o	
Aux Messages : Reset	x	x	

Notes: *1 ; receive if switch is on.
*2 ; m is always treated as "1" regardless of its value.

Mode 1 : OMNI ON, POLY Mode 2 : OMNI ON, MONO o : Yes
Mode 3 : OMNI OFF, POLY Mode 4 : OMNI OFF, MONO x : No

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2. IMPORTANT: When connecting this product to accessories and/or another product use only high quality shielded cables. Cable/s supplied with this product MUST be used. Follow all installation instructions. Failure to follow instructions could void your FCC authorization to use this product in the USA.

3. NOTE: This product has been tested and found to comply with the requirements listed in FCC Regulations, Part 15 for Class "B" digital devices. Compliance with these requirements provides a reasonable level of assurance that your use of this product in a residential environment will not result in harmful interference with other electronic devices. This equipment generates/uses radio frequencies and, if not installed and used according to the instructions found in the users manual, may cause interference harmful to the operation of other electronic devices. Compliance with FCC regulations does not guarantee that interference will not occur in all installations. If this product is found to be the source of interference, which can be determined by turning the unit "OFF" and "ON", please try to eliminate the problem by using one of the following measures:

Relocate either this product or the device that is being affected by the interference.

Utilize power outlets that are on different branch (circuit breaker or fuse) circuits or install AC line filter/s.

In the case of radio or TV interference, relocate/reorient the antenna. If the antenna lead-in is 300 ohm ribbon lead, change the lead-in to co-axial type cable.

If these corrective measures do not produce satisfactory results, please contact the local retailer authorized to distribute this type of product. If you can not locate the appropriate retailer, please contact Yamaha Corporation of America, Electronic Service Division, 6600 Orangethorpe Ave, Buena Park, CA90620

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